Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction

Confidence Building Measures 2012

Switzerland

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Annual Report by Switzerland in accordance with the final declaration of the Seventh Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction

Covering the year 2011

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Declaration form on "Nothing to Declare" or "Nothing New to Declare" for use in the information exchange

Measure	Nothing to declare	Nothing new to declare	Year of last declaration if nothing new to declare
A, part 1	☐	☐	
A, part 2 (i)	☐	☒	2009
A, part 2 (ii)	☐	☐	
A, part 2 (iii)	☐	☐	
B	☐	☐	
C	☐	☒	2010
E	☐	☐	
F	☐	☒	2001
G	☐	☐	

(Please mark the appropriate box(es) for each measure with a tick, and fill in the year of last declaration in the last column where applicable.)

Date: 15 April 2012
State Party to the Convention: Switzerland
Date of ratification/accession to the Convention: 4 May 1976

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Active promotion of contacts

The Third Review Conference agreed that States parties continue to implement the following:

"Active promotion of contacts between scientists, other experts and facilities engaged in biological research directly related to the Convention, including exchanges and visits for joint research on a mutually agreed basis."

In order to actively promote professional contacts between scientists, joint research projects and other activities aimed at preventing or reducing the occurrence of ambiguities, doubts and suspicions and at improving international cooperation in the field of peaceful bacteriological (biological) activities, the Seventh Review Conference encouraged States parties to share forward looking information, to the extent possible,

- *on planned international conferences, seminars, symposia and similar events dealing with biological research directly related to the Convention, and*

- *on other opportunities for exchange of scientists, joint research or other measures to promote contacts between scientists engaged in biological research directly related to the Convention,*

including through the Implementation Support Unit (ISU) within the United Nations Office for Disarmament Affairs.

Exchange of data on research centres and laboratories

At the Third Review Conference it was agreed that States Parties continue to implement the following:

"Exchange of data, including name, location, scope and general description of activities, on research centres and laboratories that meet very high national or international safety standards established for handling, for permitted purposes, biological materials that pose a high individual and community risk or specialize in permitted biological activities directly related to the Convention."

Modalities

The Third Review Conference agreed on the following, later amended by the Seventh Review Conference:

Data should be provided by States Parties on each facility, within their territory or under their jurisdiction or control anywhere, which has any maximum containment laboratories meeting those criteria for such maximum containment laboratories as specified in the latest edition of the WHO[1] Laboratory Biosafety Manual and/or OIE[2] Terrestrial Manual or other equivalent guidelines adopted by relevant international organisations, such as those designated as biosafety level 4 (BL4, BSL4 or P4) or equivalent standards.

States Parties that do not possess a facility meeting criteria for such maximum containment should continue to Form A, part 1 (ii).

[1] World Health Organization
[2] World Organization for Animal Health

Exchange of data on research centres and laboratories

In Switzerland, there is currently no operational high containment facility (BSL4) with an unrestricted license, i.e. fulfilling all necessary requirements for e.g. culturing and enrichment of BSL4 agents etc. This status will change in 2012 when the BSL4 laboratory at Spiez Laboratory will go fully operational after successful commissioning currently in progress. At the end of 2011, there was one operational BSL4 laboratory with a license limited to strictly diagnostic purposes and one operational BSL3Ag laboratory serving as national reference center for exotic animal diseases.
In the forseeable future, there will only be one BSL4 laboratory with an unrestricted license in Switzerland (full BSL4), however, there may be a need for additional BSL4 laboratories with a license limited to strictly diagnostic purposes or an even smaller subset of activities (BSL4 diagnostic).

Exchange of data on research centres and laboratories[3]

Name of facility[4]	**Labor Spiez** (Spiez Laboratory)
Affiliation	Bundesamt für Bevölkerungsschutz, Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport (Federal Office for Civil Protection, Federal Department of Defence, Civil Protection and Sports)

This facility is declared in accordance with Form A, part 2 (iii) [➢ pages 26 to 32].

Of note, as of 31 December 2011 the high containment facility (BSL4) is in commissioning phase and not yet operational.

[3] The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.

[4] For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

Exchange of data on research centres and laboratories[3]

Name of facility[4]	**Institut für Viruskrankheiten und Immunprophylaxe** (Institute of Virology and Immunoprophylaxis)
Affiliation	Bundesamt für Veterinärwesen, Eidgenössisches Volkswirtschaftsdepartement (Federal Veterinary Office, Federal Department of Economic Affairs)

This facility is declared in accordance with Form A, part 2 (iii) [➢ pages 33 to 37].

Of note, the maximum containment level is BSL3Ag. BSL3Ag facilities have special features not comparable to standard BSL3 or BSL4. In this particular case, the shell is considered as BSL4, whereas inside the containment area most of the space is BSL1 and BSL2 with a small BSL3 area.

[3] The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.

[4] For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

Exchange of data on research centres and laboratories[3]

Name of facility[4]	**Centre National de Référence pour les Infections Virales Emergentes** (National Reference Center for Emerging Viral Infections)
Affiliation	Laboratoire de Virologie, Hôpitaux Universitaires de Genève (Virological Laboratory, University Hospitals of Geneva)

This facility is declared in accordance with Form A, part 2 (iii) [➢ pages 38 to 43].

Of note, the BSL4 unit is licensed for diagnostic purposes only.

[3] The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.

[4] For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

Exchange of data on research centres and laboratories

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents[6] on a State Party's territory:

Biosafety level 3[7]	n/a
Biosafety level 2[8] (if applicable)	n/a

Any additional relevant information as appropriate:

n/a

[6] Microorganisms pathogenic to humans and/or animals

[7] In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.

[8] In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.

Exchange of information on national biological defence research and development programmes

At the Third Review Conference it was agreed that States Parties are to implement the following:

In the interest of increasing the transparency of national research and development programmes on biological defence, the States Parties will declare whether or not they conduct such programmes. States Parties agreed to provide, annually, detailed information on their biological defence research and development programmes including summaries of the objectives and costs of effort performed by contractors and in other facilities. If no biological defence research and development programme is being conducted, a null report will be provided.

States Parties will make declarations in accordance with the attached forms, which require the following information:

(1) The objective and summary of the research and development activities under way indicating whether work is conducted in the following areas: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research;

(2) Whether contractor or other non-defence facilities are utilized and the total funding provided to that portion of the programme;

(3) The organizational structure of the programme and its reporting relationships; and

(4) The following information concerning the defence and other governmental facilities in which the biological defence research and development programme is concentrated;

(a) location;

(b) the floor areas (sqM) of the facilities including that dedicated to each of BL2, BL3 and BL4 level laboratories;

(c) the total number of staff employed, including those contracted full time for more than six months;

(d) numbers of staff reported in (c) by the following categories: civilian, military, scientists, technicians, engineers, support and administrative staff;

(e) a list of the scientific disciplines of the scientific/engineering staff;

(f) the source and funding levels in the following three areas: research, development, and test and evaluation; and

(g) the policy regarding publication and a list of publicly-available papers and reports.

National biological defence research and development programmes – Declaration

Are there any national programmes to conduct biological defence research and development within the territory of the State Party, under its jurisdiction or control anywhere? Activities of such programmes would include prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.

Yes

If the answer is Yes, complete Form A, part 2 (ii) which will provide a description of each programme.

National biological defence research and development programmes – Description

National Biological Defense Program

1. State the objectives and funding of each programme and summarize the principal research and development activities conducted in the programme. Areas to be addressed shall include: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.

The objective is to establish national biological defense proficiency by developing and improving precise and accurate identification and characterization tests for the rapid diagnosis of different biological agents and toxins using various methods. Spiez Laboratory is assigned to fulfill this task and to close any gaps to reach national biological defense excellence. To improve the national biological defense capabilities of Switzerland, Spiez Laboratory has funds available to run a dedicated program with the goal of added research and development mainly benefitting detection and diagnostic techniques. A major part of the program is conducted under contract with national and international industries, academic institutions as well as domestic and foreign governmental agencies, as detailed in paragraph 5 below.
Spiez Laboratory is part of the Federal Office for Civil Protection FOCP within the Federal Department of Defence, Civil Protection and Sports DDPS of the Swiss Confederation. Spiez Laboratory is the Swiss center of expertise in protection against nuclear, biological and chemical (NBC) threats and hazards. Besides delivering its expertise to relevant stakeholders, the Biology Section of Spiez Laboratory is concerned with the detection of biological agents and toxins, as well as supports military biological protection units. The Biology Section has three main branches that are engaged in the fields of virology, bacteriology and toxinology, respectively.
Spiez Laboratory is in process of commissioning an all new high containment facility that will allow the safe handling of biological agents of risk groups 3 and 4. It will be the first BSL4 high containment facility on Swiss territory licensed without any special restrictions or limitations. It is expected to be fully operational by the end of 2012 and will serve towards the comprehensive detection and identification of human pathogens. This will also enable Spiez Laboratory to act in the Regional Laboratory Network (➢ pages 18 to 24) as both a Regional Competence Center and National Reference Center having all necessary capabilities and capacities at hand.
For additional information and more on the vision of a world without weapons of mass destruction please visit: http://www.labor-spiez.ch/enindex.htm

2. State the total funding for each programme and its source.

Swiss Confederation, Federal Department of Defence, Civil Protection and Sports DDPS, Federal Office for Civil Protection FOCP:

CHF 5'000'000.- per year

3. Are aspects of these programmes conducted under contract with industry, academic institutions, or in other non-defence facilities?

Yes

4. If yes, what proportion of the total funds for each programme is expended in these contracted or other facilities?

15 %

5. Summarize the objectives and research areas of each programme performed by contractors and in other facilities with the funds identified under paragraph 4.

All contracted research and development of the program is supervised by Spiez Laboratory. Please also refer to paragraph 1 above for additional details. The contractors part of the program in 2011 were as follows:

- Forschungsanstalt Agroscope Changins-Wädenswil – ACW
  Schloss
  CH-8820 Wädenswil
  Switzerland
  Project title: „Development of a DNA Chip for the detection of biological warfare agents"

- Istituto Cantonale di Microbiologia – ICM
  Via Mirasole 22A
  CH-6500 Bellinzona
  Switzerland
  Project title: „Microbiological monitoring of mosquitoes in Switzerland that may act as vectors for viruses pathogenic to humans and animals"

- Schweizerisches Tropen- und Public Health Institut – STPHI
  Socinstrasse 57
  CH-4002 Basel
  Project title: „Production and characterization of monoclonal antibodies against bacterial agents"
  Project title: „Molecular diagnostics and epidemiology of viruses categorized as possible tools of biological terrorism"

- Universität Bern – UniBE
  Institut für Infektionskrankheiten – IFIK
  Friedbühlstrasse 51
  CH-3010 Bern
  Switzerland
  Project title: „Evaluation of siRNA for antiviral therapy of encephalitogenic viruses: Studies in cell cultures and animal models"

- Universität Bern – UniBE
  Institut für Parasitologie der Vetsuisse Fakultät und der Medizinischen Fakultät
  Länggassstrasse 122
  CH-3012 Bern
  Switzerland
  Project title: "Analysis of mechanisms of pathogenicity in *Naegleria fowleri*"

- Universität Zürich – UZH
  Institut für Sozial- und Präventivmedizin – ISPM
  Hirschengraben 84
  CH-8001 Zürich
  Switzerland
  Project title: „Hantaviral serology of patients exhibiting acute renal failure in regions of Switzerland close to the border"
  Project title: „Medical concept for the high containment facility"

- Zürcher Hochschule für angewandte Wissenschaften – ZHAW
  Institut für Chemie und biologische Chemie – ICBC
  Einsiedlerstrasse 31
  CH-8820 Wädenswil
  Switzerland
  Project title: „Detection of proteinaceous toxins"

- Medizinische Hochschule Hannover
  Institut für Toxikologie
  Carl-Neuberg-Strasse 1
  DE-30625 Hannover
  Germany
  Project title: „Assessing proteolytic stability and transepithelial transport of the proteinaceous toxins ricin, BoNT and SEB"

- miprolab GmbH / Universität Göttingen
  Marie-Curie-Strasse 7
  DE-37079 Göttingen
  Germany
  Project title: „Detection and risk assessment of biological toxins"
  Project title: „Lateral flow assays for the detection of biological agents"

- Robert Koch Institut - RKI
  Zentrum für Biologische Sicherheit
  Nordufer 20
  DE-13353 Berlin
  Germany
  Project title: „Expansion of the *C. botulinum* culture collection"

- Институт Химической Биологии и Фундаментальной Медицины – ИХБФМ
  (Institute for Chemical Biology and Fundamental Medicine – ICBFM)
  Lavrent'eva pr. 8
  RU-630090 Novosinbirsk
  Russian Federation
  Project title: „Electron microscopy development"

6. Provide a diagram of the organizational structure of each programme and the reporting relationships (include individual facilities participating in the programme).

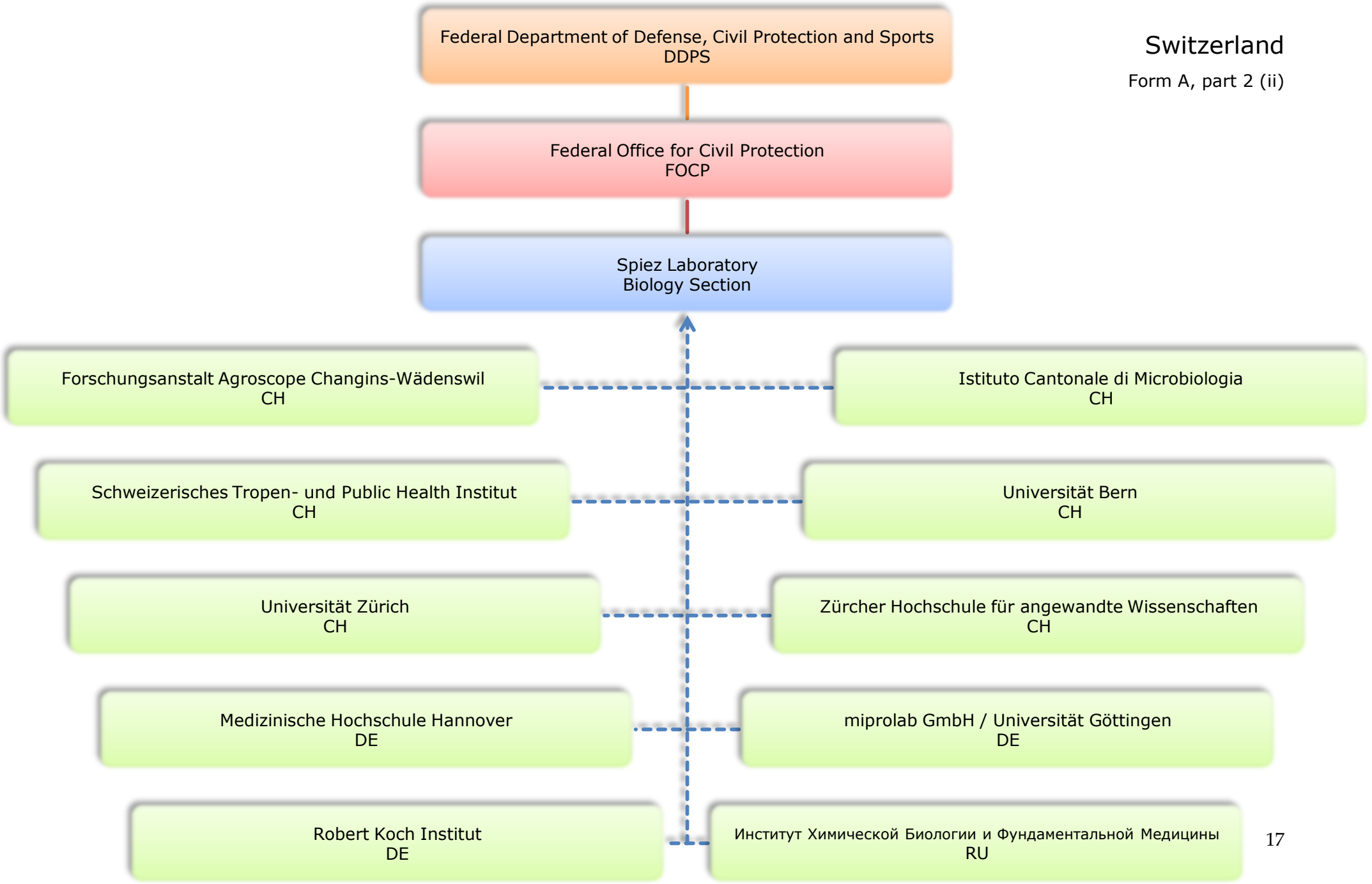
Please refer to the diagram on the next page.

7. Provide a declaration in accordance with Form A, part 2 (iii) for each facility, both governmental and non-governmental, which has a substantial proportion of its resources devoted to each national biological defence research and development programme, within the territory of the reporting State, or under its jurisdiction or control anywhere.

Please refer to Form A, part 2 (iii) [➢ pages 26 to 32].

Switzerland

Form A, part 2 (ii)



National biological defence research and development programmes – Description

Regional Laboratory Network

1. State the objectives and funding of each programme and summarize the principal research and development activities conducted in the programme. Areas to be addressed shall include: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.

The objective is the establishment and maintenance of capability and capacity for the rapid laboratory-based initial diagnosis of pathogens in case of a biological emergency, whether it be of natural or accidental origin or due to deliberate release. This forms the basis for any adequate countermeasures that need to be planned and implemented to ensure the protection of the population. The consequent integration of state of the art detection and diagnostic techniques as well as their constant refinement and improvement is therefore indispensable for a holistic biological emergency concept.
The implemented structure is a decentralized network of Regional Competence Centers and National Reference Centers, all of which have been mandated by the Federal Office of Public Health. This network benefits from already existing infrastructure. The network is embedded in the Swiss CBRN concept and is coordinated by the Regional Laboratory Coordination Committee that consists of federal, cantonal and scientific experts. There is a total of three National Reference Centers and six Regional Competence Centers called Regional Laboratories. The task for Regional Laboratories is the rapid initial diagnosis of pathogens, whereas National Reference Centers are qualified for initial as well as confirmational diagnoses. All facilities pursue civil duties and are put on assignments of the Regional Laboratory Network in the event of biological emergencies only. All cantons are part of the network either as a host canton of a Regional Laboratory (underlined) or as an affiliated canton, as shown in the table below.

Regional Laboratory	**Host cantons and affiliated cantons**
West	FR, GE, NE, VD, VS
West Central	BE, JU
East Central	LU, NW, OW, SZ, UR
East	AI, AR, GL, GR, SG, SH, TG, ZG, ZH (+FL)
North	AG, BL, BS, SO
South	TI

Of note, the two cantons of Genève and Vaud share the authority over the Regional Laboratory West. The Principality of Liechtenstein (FL) is part of the Regional Laboratory East. For an explanation of abbreviations, please refer to the comprehensive map on the next page.

Switzerland

Form A, part 2 (ii)

SWITZERLAND
AG Aargau
AI Appenzell Innerrhoden
AR Appenzell Ausserrhoden
BE Bern / Berne
BL Basel Landschaft
BS Basel Stadt
FR Fribourg / Freiburg
GE Genève
GL Glarus
GR Graubünden / Grischun /Grigioni
JU Jura
LU Luzern
NE Neuchâtel
NW Nidwalden
OW Obwalden
SG Sankt Gallen
SH Schaffhausen
SO Solothurn
SZ Schwyz
TG Thurgau
TI Ticino
UR Uri
VD Vaud
VS Valais / Wallis
ZG Zug
ZH Zürich

The network consists of the following facilities that are described on Form A, part 2 (iii) in more detail:

Function	Authority	Facility
National Reference Center	GDK*	Institut für Viruskrankheiten und Immunprophylaxe
National Reference Center	GDK*	Centre National de Référence pour les Infections Virales Emergentes
National Reference Center	GDK*	Nationales Zentrum für Anthrax
Regional Laboratory West	Canton of Genève	Laboratoire de Bactériologie Centre National de Référence pour les Infections Virales Emergentes
	Canton of Vaud	Laboratoires de Diagnostic de l'Institut de Microbiologie
Regional Laboratory West Central	Canton of Bern	Labor Spiez
Regional Laboratory East Central	Canton of Luzern	Institut für Medizinische Mikrobiologie
Regional Laboratory East	Canton of Zürich	Institut für Medizinische Mikrobiologie Institut für Medizinische Virologie
Regional Laboratory North	Canton of Basel-Stadt	Kantonales Laboratorium Basel-Stadt
Regional Laboratory South	Canton of Ticino	Istituto Cantonale di Microbiologia

* Swiss Conference of Cantonal Ministers of Public Health

2. State the total funding for each programme and its source.

All personnel involved in activities in relation to the Regional Laboratory Network is tasked with other civil duties. Many of these other activities, such as development of related methods, sample preparation and processing, training, etc., although at least indirectly of benefit to the activities in relation to the Regional Laboratory Network, remain unaccounted for and are not singled out as being of such nature. Furthermore, the whole network relies on existing infrastructures in use for other civil purposes. Due to these facts it is not possible to sort out personnel costs, cost of materials and consumables, as well as dedicated infrastructure costs for the program, however, it is possible to name the funding sources as follows:

- Swiss Confederation, Federal Department of Home Affairs FDHA, Federal Office of Public Health FOPH
- Swiss Confederation, Federal Department of Economic Affairs FDEA, Federal Veterinary Office FVO
- All twenty-six cantons of Switzerland
- Principality of Liechtenstein

3. Are aspects of these programmes conducted under contract with industry, academic institutions, or in other non-defence facilities?

No

4. If yes, what proportion of the total funds for each programme is expended in these contracted or other facilities?

n/a

5. Summarize the objectives and research areas of each programme performed by contractors and in other facilities with the funds identified under paragraph 4.

n/a

6. Provide a diagram of the organizational structure of each programme and the reporting relationships (include individual facilities participating in the programme).

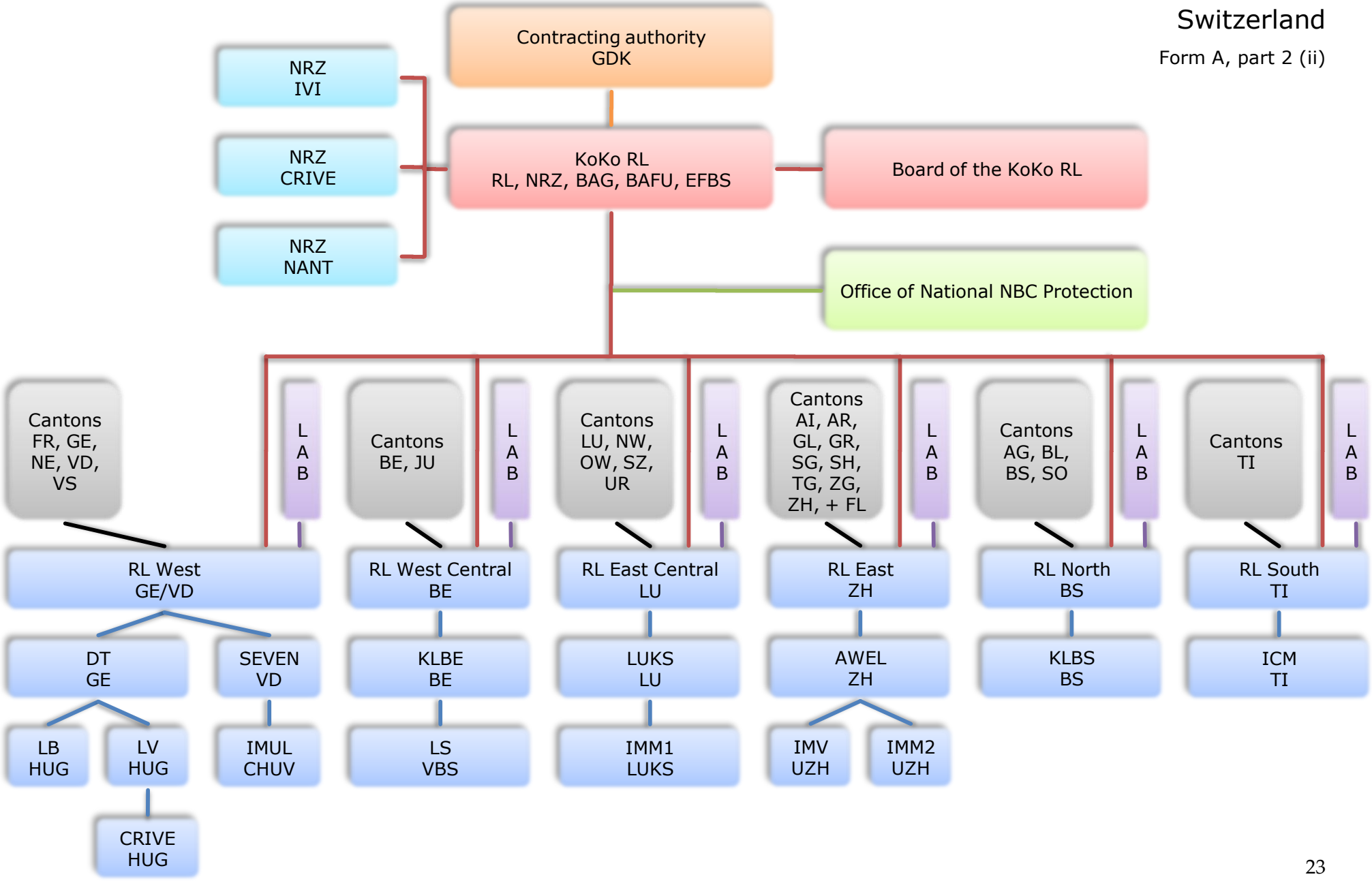
Please refer to the diagram on page 23.

7. Provide a declaration in accordance with Form A, part 2 (iii) for each facility, both governmental and non-governmental, which has a substantial proportion of its resources devoted to each national biological defence research and development programme, within the territory of the reporting State, or under its jurisdiction or control anywhere.

Please refer to Form A, part 2 (iii) [➢ pages 33 to 86].

Switzerland

Form A, part 2 (ii)



Abbreviations used in the diagram on the previous page:

AWEL:	Section for Waste Management and Operations
BAFU:	Federal Office for the Environment
BAG:	Federal Office of Public Health
Cantons:	Please refer to the map in paragraph 1 above
CHUV:	University Hospital Center of Vaud
CRIVE:	National Reference Center for Emerging Viral Infections
DT:	Department of Territory
EFBS:	Swiss Expert Committee for Biosafety
GDK:	Swiss Conference of Cantonal Ministers of Public Health
HUG:	University Hospitals of Geneva
ICM:	Cantonal Institute of Microbiology
IMM1:	Department of Medical Microbiology
IMM2:	Institute of Medical Microbiology
IMUL:	Diagnostic Laboratories of the Institute of Microbiology
IMV:	Institute of Medical Virology
IVI:	Institute of Virology and Immunoprophylaxis
KLBE:	Cantonal Laboratory of Berne
KLBS:	Cantonal Laboratory of Basel-Stadt
KoKo:	Coordination Committee
LAB:	Laboratory Advisory Board
LB:	Bacteriological Laboratory
LS:	Spiez Laboratory
LUKS:	Cantonal Hospital of Luzern
LV:	Virological Laboratory
NANT:	National Reference Center for Anthrax
NRZ:	National Reference Center
RL:	Regional Laboratory
SEVEN:	Service of Environment and Energy
UZH:	University of Zurich
VBS:	Federal Department of Defense, Civil Protection and Sports

National biological defence research and development programmes – Facilities

Complete a form for each facility declared in accordance with paragraph 7 in Form A, part 2 (ii).

In shared facilities, provide the following information for the biological defence research and development portion only.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Schweizerisches Fachinstitut für den ABC Schutz (Swiss Center of Expertise in NBC Protection)
Name of facility	**Labor Spiez** (Spiez Laboratory)
Affiliation	Bundesamt für Bevölkerungsschutz, Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport (Federal Office for Civil Protection, Federal Department of Defence, Civil Protection and Sports)

2. *Where is it located (include both address and geographical location)?*

Location	Austrasse CH-3700 Spiez
Geographical location	N 46° 41' 26.32", E 7° 38' 39.41"

3. *Floor area of laboratory areas by containment level:*

BSL2	483 m^2
BSL3	126 m^2
BSL3Ag	0 m^2
BSL4	118 m^2
Total	727 m^2

Of note, as of 31 December 2011 the facility is in commissioning phase and not yet operational. Further information on the facility is presented on pages 30 to 32.

4. The organizational structure of each facility.

(i) Total number of personnel

19

Of note, as of 1 January 2012 the total number of personnel at Spiez Laboratory amounts to 94, 15 of which in the Biology Section and 4 of which in the Logistics, Quality & Security Section dealing with technical and security issues related to the Biology Section.

(ii) Division of personnel:

Military	0
Civilian	19

(iii) Division of personnel by category:

Scientists	9
Engineers	0
Technicians	10
Administrative and support staff	0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Virology, bacteriology, toxinology, biosafety and biosecurity

(v) Are contractor staff working in the facility? If so, provide an approximate number.

5

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Swiss Confederation (Federal Department of Defence, Civil Protection and Sports)

(vii) What are the funding levels for the following programme areas:

Total	CHF 5'000'000.-
Research	15 %
Development	10 %
Test & Evaluation	5 %
Analysis / Diagnosis	15 %
Education & Training	5 %
Other activities	50 % (costs for operation, maintenance and amortization)

(viii) Briefly describe the publication policy of the facility:

Publication in open literature

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

List of publicly available papers and reports published in 2011:

Wittwer M, Heim J, Schär M, Dewarrat G, Schürch N. Tapping the potential of intact cell mass spectrometry with a combined data analytical approach applied to Yersinia spp.: detection, differentiation and identification of Y. pestis. Syst Appl Microbiol. 2011 Feb;34(1):12-9.

Gäumann R, Růžek D, Mühlemann K, Strasser M, Beuret CM. Phylogenetic and Virulence-Analysis of Tick-borne Encephalitis Virus Field Isolates from Switzerland. J Med Virol. 2011 May;83(5): 853-863.

Kraushaar B, Dieckmann R, Wittwer M, Knabner D, Konietzny A, Mäde D, Strauch E. Characterization of a Yersinia enterocolitica biotype 1A strain harbouring an ail gene. J Appl Microbiol. 2011 Oct;111(4):997-1005.

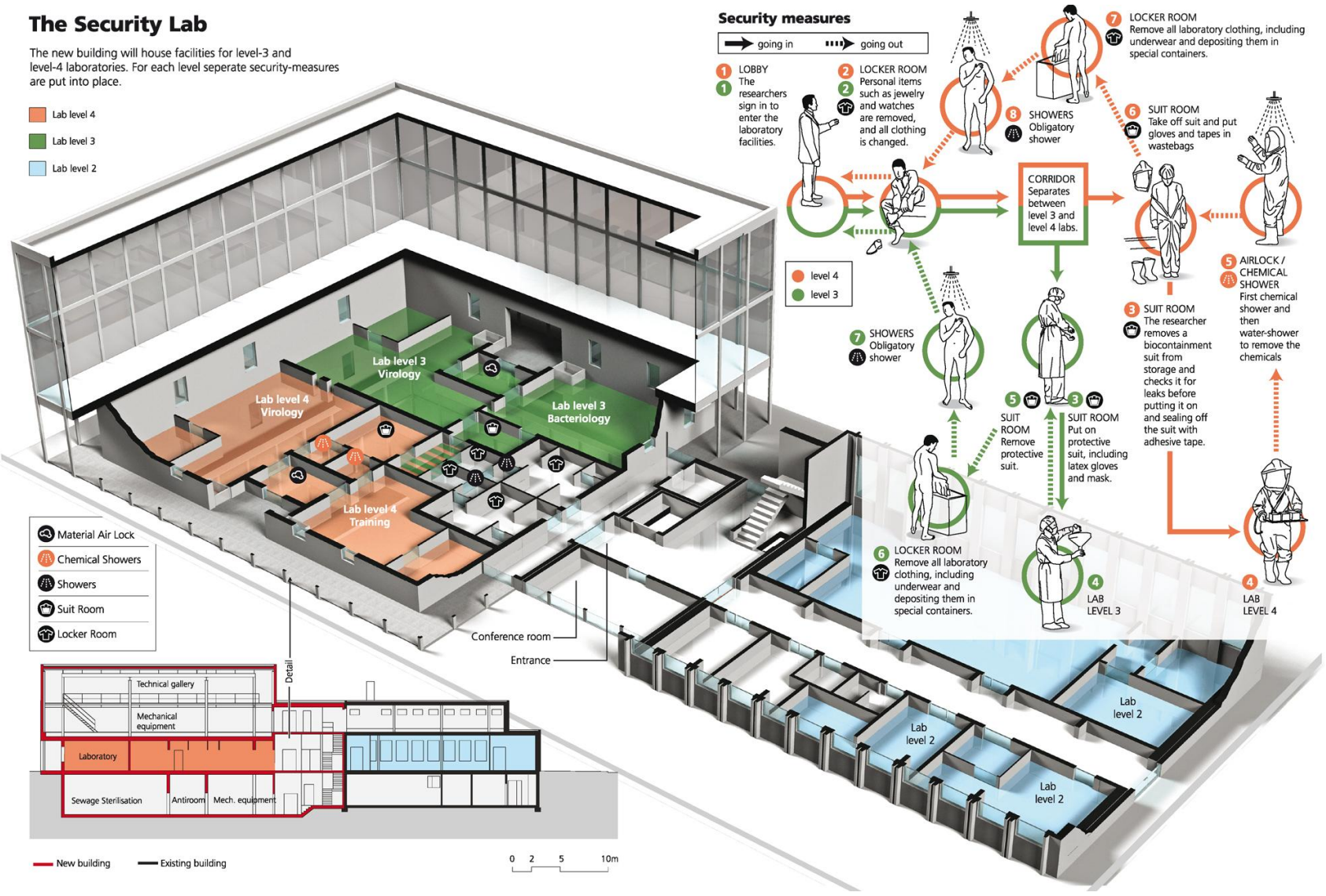
Worbs S, Köhler K, Pauly D, Avondet M, Schär M, Dorner MB, Dorner BG. Ricinus communis Intoxications in Human and Veterinary Medicine—A Summary of Real Cases. Toxins 2011 Oct;3(10):1332-72

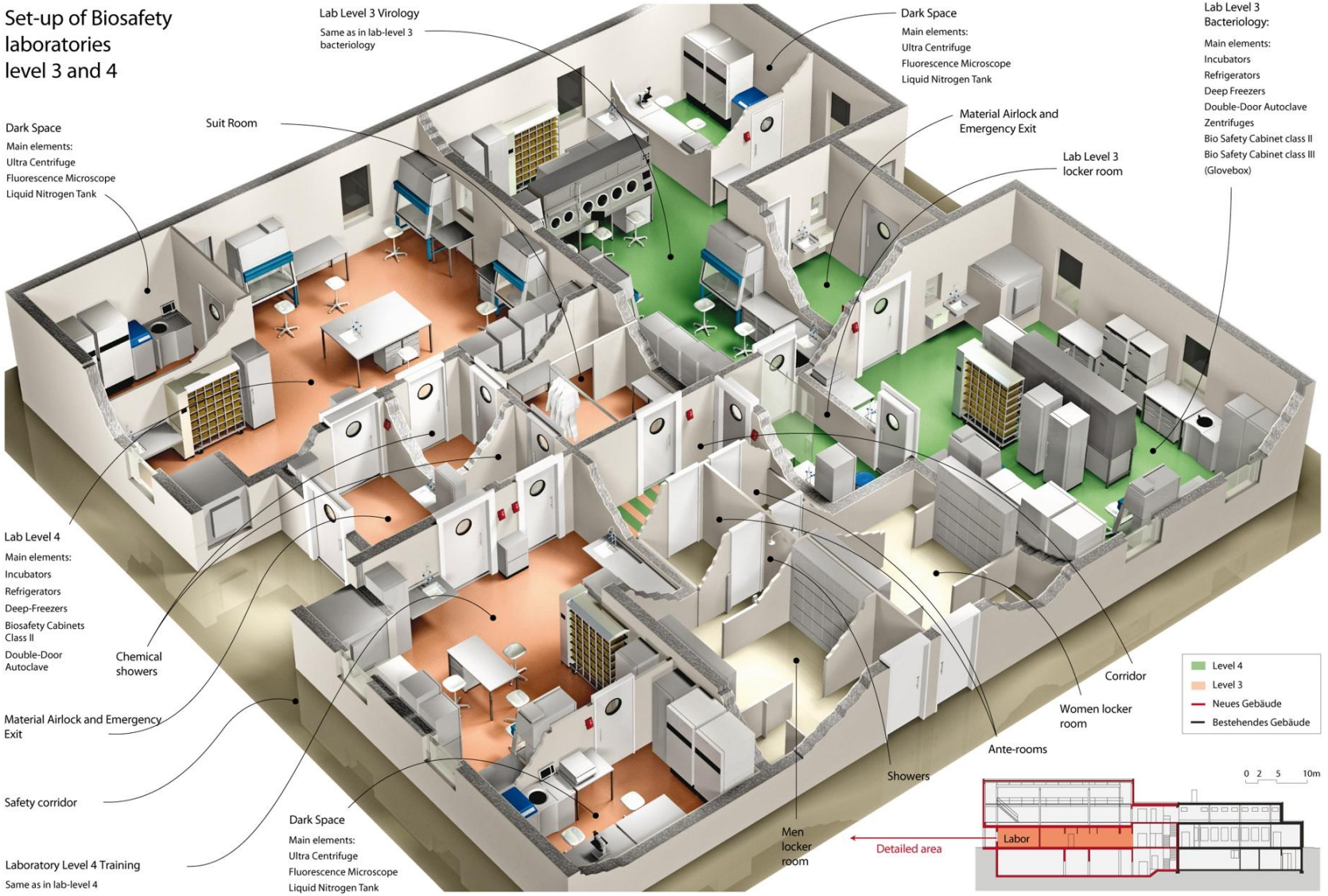
5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[9] and/or toxins studied, as well as outdoor studies of biological aerosols.

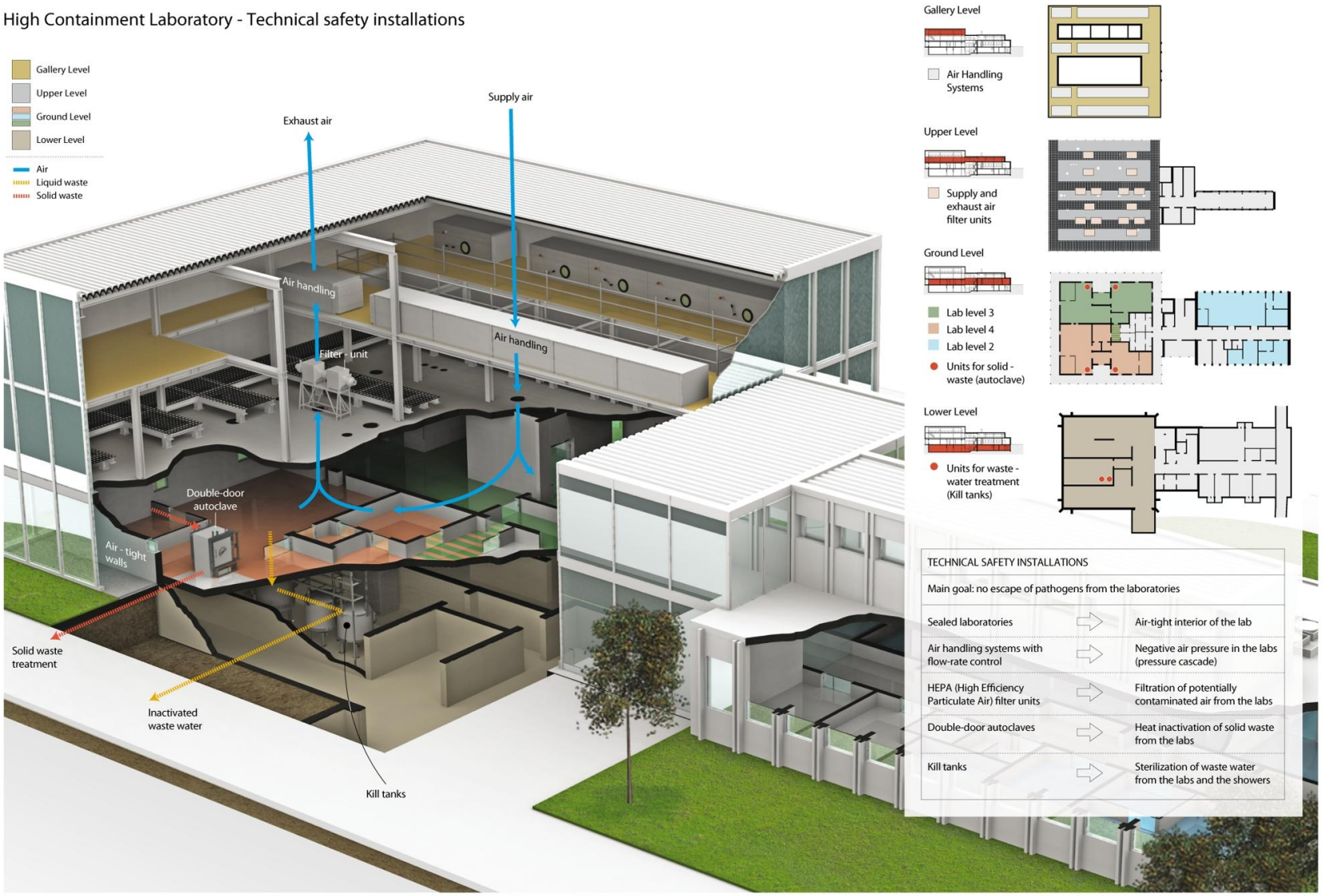
Spiez Laboratory, which is part of the Federal Department for Civil Protection, is the Swiss Center of Expertise in NBC Protection. Its Biology Section has a range of activities including research, development, test & evaluation, training, as well as diagnosis in the fields of virology, bacteriology, toxinology and biosafety. The tasks include analysis of unknown samples, diagnostics of potential biological warfare and bioterror agents, food and water analysis for the Swiss Armed Forces, and research & development in coordination with contractors. Spiez Laboratory deals with many different biological agents and toxins known to be pathogenic for humans.

For more detailed information please refer to Form A, part 2 (ii) [➢ pages 13 to 17] and visit: http://www.labor-spiez.ch/enindex.htm

[9] Including viruses and prions.


The Security Lab
The new building will house facilities for level-3 and level-4 laboratories. For each level seperate security-measures are put into place.
Lab level 4
Lab level 3
Lab level 2
Lab level 3 Virology
Lab level 4 Virology
Lab level 3 Bacteriology
Lab level 4 Training
Material Air Lock
Chemical Showers
Showers
Suit Room
Locker Room
Conference room
Entrance
Detail
Technical gallery
Mechanical equipment
Laboratory
Sewage Sterilisation
Antiroom
Mech. equipment
New building
Existing building
0 2 5 10m
Security measures
going in
going out
1 LOBBY The researchers sign in to enter the laboratory facilities.
2 LOCKER ROOM Personal items such as jewelry and watches are removed, and all clothing is changed.
8 SHOWERS Obligatory shower
7 LOCKER ROOM Remove all laboratory clothing, including underwear and depositing them in special containers.
6 SUIT ROOM Take off suit and put gloves and tapes in wastebags
5 AIRLOCK / CHEMICAL SHOWER First chemical shower and then water-shower to remove the chemicals
3 SUIT ROOM The researcher removes a biocontainment suit from storage and checks it for leaks before putting it on and sealing off the suit with adhesive tape.
4 LAB LEVEL 4
4 LAB LEVEL 3
5 3 SUIT ROOM Put on protective suit, including latex gloves and mask.
5 SUIT ROOM Remove protective suit.
6 LOCKER ROOM Remove all laboratory clothing, including underwear and depositing them in special containers.
7 SHOWERS Obligatory shower
CORRIDOR Separates between level 3 and level 4 labs.
level 4
level 3
Lab level 2
Lab level 2
Lab level 2


Set-up of Biosafety laboratories level 3 and 4
Lab Level 3 Virology
Same as in lab-level 3 bacteriology
Dark Space
Main elements:
Ultra Centrifuge
Fluorescence Microscope
Liquid Nitrogen Tank
Lab Level 3 Bacteriology:
Main elements:
Incubators
Refrigerators
Deep Freezers
Double-Door Autoclave
Zentrifuges
Bio Safety Cabinet class II
Bio Safety Cabinet class III (Glovebox)
Suit Room
Material Airlock and Emergency Exit
Lab Level 3 locker room
Dark Space
Main elements:
Ultra Centrifuge
Fluorescence Microscope
Liquid Nitrogen Tank
Lab Level 4
Main elements:
Incubators
Refrigerators
Deep-Freezers
Biosafety Cabinets Class II
Double-Door Autoclave
Chemical showers
Material Airlock and Emergency Exit
Safety corridor
Laboratory Level 4 Training
Same as in lab-level 4
Dark Space
Main elements:
Ultra Centrifuge
Fluorescence Microscope
Liquid Nitrogen Tank
Men locker room
Showers
Ante-rooms
Women locker room
Corridor
Level 4
Level 3
Neues Gebäude
Bestehendes Gebäude
0 2 5 10m
Detailed area
Labor


High Containment Laboratory - Technical safety installations
Gallery Level
Upper Level
Ground Level
Lower Level
Air
Liquid waste
Solid waste
Exhaust air
Supply air
Air handling
Air handling
Filter - unit
Double-door autoclave
Air - tight walls
Solid waste treatment
Inactivated waste water
Kill tanks
Gallery Level
Air Handling Systems
Upper Level
Supply and exhaust air filter units
Ground Level
Lab level 3
Lab level 4
Lab level 2
Units for solid - waste (autoclave)
Lower Level
Units for waste - water treatment (Kill tanks)
TECHNICAL SAFETY INSTALLATIONS
Main goal: no escape of pathogens from the laboratories
Sealed laboratories
Air-tight interior of the lab
Air handling systems with flow-rate control
Negative air pressure in the labs (pressure cascade)
HEPA (High Efficiency Particulate Air) filter units
Filtration of potentially contaminated air from the labs
Double-door autoclaves
Heat inactivation of solid waste from the labs
Kill tanks
Sterilization of waste water from the labs and the showers

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Nationales Referenzzentrum (National Reference Center)
Name of facility	**Institut für Viruskrankheiten und Immunprophylaxe** (Institute of Virology and Immunoprophylaxis)
Affiliation	Bundesamt für Veterinärwesen, Eidgenössisches Volkswirtschaftsdepartement (Federal Veterinary Office, Federal Department of Economic Affairs)

2. *Where is it located (include both address and geographical location)?*

Location	Sensemattstrasse 293 CH-3147 Mittelhäusern
Geographical location	N 46° 52' 50.20", E 7° 21' 46.81"

3. *Floor area of laboratory areas by containment level:*

BSL2	210 m^2
BSL3	44 m^2
BSL3Ag	10'446 m^2
BSL4	0 m^2
Total	10'700 m^2

Of note, BSL3Ag facilities have special features not comparable to standard BSL3 or BSL4 facilities. The shell is considered BSL4, whereas inside the containment area BSL1 and BSL2 space is common standard. All authorized personnel enters through a shower barrier, works inside the containment area in clothing suitable to BSL1 or BSL2, and showers out when leaving. Due to these special features of BSL3Ag facilities, the BSL3Ag area is not limited to laboratory units, but also includes technical space and animal units, which is all located within the containment area. Therefore all maintenance work can be done during operation – the facility has never been shut down so far. This also means that a direct comparison with BSL4 facilities is not practicable.

4. The organizational structure of each facility.

(i) Total number of personnel

55

(ii) Division of personnel:

Military	0
Civilian	55

(iii) Division of personnel by category:

Scientists	10
Engineers	10
Technicians	30
Administrative and support staff	5

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Virology, immunology, vaccine control, diagnostics, development and validation of methods, biosafety, engineering, animal breeding

(v) Are contractor staff working in the facility? If so, provide an approximate number.

0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Swiss Confederation (Federal Department of Economic Affairs)

(vii) What are the funding levels for the following programme areas:

Research	15 %
Development	10 %
Test & Evaluation	10 %
Analysis / Diagnosis	25 %
Education & Training	10 %
Other activities	30 % (costs for safety, infrastructure and administration)

(viii) Briefly describe the publication policy of the facility:

Publication in open literature

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

List of publicly available papers and reports published in 2011:

Balmelli, C., Steiner, E., Moulin, H., Peduto, N., Herrmann, B., Summerfield, A., McCullough, K.: Porcine circovirus type 2 DNA influences cytoskeleton rearrangements in plasmacytoid and monocyte-derived dendritic cells. Immunology 132 (1), 57-65, 2011.

Bel, M., Ocaña-Macchi, M., Liniger, M., McCullough, K.C., Matrosovich, M., Summerfield, A.: Efficient sensing of avian influenza viruses by porcine plasmacytoid dendritic cells. Viruses, 3, 312-330, 2011.

Berger Rentsch, M., Zimmer, G.: A vesicular stomatitis virus replicon-based bioassay for the rapid and sensitive determination of multi-species type I interferon. PLoS ONE 6 (10), e25858, 2011.

Debache, K., Kropf, C., Schütz, C.A., Harwood, L.J., Käuper, P., Monney, T., Rossi, N., Laue, C., McCullough K.C., Hemphill, A.: Vaccination of mice with chitosan nanogel-associated recombinant NcPDI against challenge infection with Neospora caninum tachyzoites. Parasite Immunology, 33, 81-94, 2011.

Eymann-Häni, R., Leifer, I., McCullough, K.C., Summerfield, A., Ruggli, N.: Propagation of classical swine fever virus in vitro circumventing heparan sulfate-adaptation. Journal of Virological Methods, 176, 85-95, 2011.

Fiebach, A.R., Guzylack-Piriou, L., Python, S., Summerfield, A., Ruggli, N.: Classical swine fever virus Npro limits type I interferon induction in plasmacytoid dendritic cells by interacting with interferon regulatory factor 7. Journal of Virology, 85 (16), 8002-8011, 2011.

Frentzen, A., Hüging, K., Bitzegeio, J., Friesland, M., Haid, S., Gentzsch, J., Hoffmann, M., Lindemann, D., Zimmer, G., Zielecki, F., Weber, F., Steinmann, E., Pietschmann, T.:Completion of hepatitis C virus replication cycle in heterokaryons excludes dominant restrictions in human non-liver and mouse liver cell lines. Plos Pathogens, 7 (4), 1-15, 2011.

Golde, W.T., de Los Santos, T., Robinson, L., Grubman, M.J., Sevilla, N., Summerfield, A., Charleston, B.: Evidence of activation and suppression during the early immune response to foot-and-mouth disease virus. Transboundary and Emerging Disease, 58(4), 283-290, 2011.

Hüsser, L., Alves, M.P., Ruggli, N., Summerfield, A.: Identification of the role of RIG-I, MDA-5 and TLR3 in sensing RNA viruses in porcine epithelial cells using lentivirus-driven RNA interference. Virus Research, 159 (1), 9-16, 2011.

Midtlyng. P.J., Hendriksen. C., Balks, E., Bruckner, L., Elsken, L., Evensen, O., Fyrand, K., Guy, A., Halder, M., Hawkins, P., Kisen, G., Romstad, A.-B., Salonius, K., Smith, P., Sneddon, L.U.: Three Rs approaches in the production and quality control of fish vaccines. Biologicals, 39 (2), 117, 2011.

Moulin, H.R., Liniger, M., Python, S., Guzylack-Piriou, L., Ocaña-Macchi, M., Ruggli, N., Summerfield, A.: High interferon type I responses in the lung, plasma and spleen during highly pathogenic H5N1 infection of chicken. Veterinary Research, 42 (1), 6, 2011.

Muik, A., Kneiske, I., Werbizki, M., Wilflingseder, D., Giroglou, T., Ebert, O., Kraft, A., Dietrich, U., Zimmer, G., Momma, S., von Laer, D.: Pseudotyping vesicular stomatitis virus with lymphocytic choriomeningitis virus glycoproteins enhances infectivity for glioma cells and minimizes neurotropism. Journal of Virology, 85 (11), 5679-5684, 2011.

Pauli, U., Kündig, M., Haldemann, F., Summermatter, K.: Installation of BSL-3 laboratories and ABSL-3 animal experimentation rooms in a preexisting BSL-3Ag facility: design, implementation, validation, time requirements, and costs. Applied Biosafety, 16 (2), 103-111, 2011.

Penski, N., Haertle, S., Rubbenstroth, D., Krohmann, C., Ruggli, N., Schusser, B., Pfann, M., Reuter, A., Gohrbandt S, Hundt, J., Veits, J., Breithaupt, A., Kochs, G., Stech, J., Summerfield, A., Vahlenkamp, T., Kaspers, B., Staeheli, P.: Highly pathogenic avian influenza viruses do not inhibit interferon synthesis in infected chickens but can override the interferon-induced antiviral state. Journal of Virology, 85 (15), 7730-7741, 2011.

Planzer, J., Kaufmann, C., Worwa, G., Gavier-Widén, D., Hofmann, M.A., Chaignat, V., Thür B.: In vivo and in vitro propagation and transmission of Toggenburg orbivirus. Research in Veterinary Science, 91, e163-e168, 2011.

Suter, R., Summerfield, A., Thomann-Harwood, L.J., McCullough, KC., Tratschin, J-D., Ruggli, N.: Immunogenic and replicative properties of classical swine fever virus replicon particles modified to induce IFN-α/β and carry foreign genes. Vaccine 29, 1491-1503, 2011.

Wu, N., Abril, C., Hinic, V., Brodard, I., Thür, B., Fattebert, J., Hüssy, D., Ryser-Degiorgis, M.P.: Free-ranging wild boar: a disease threat to domestic pigs in Switzerland? Journal of Wildlife Diseases 47, 868-879, 2011.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Institute of Virology and Immunoprophylaxis (IVI), which is part of the Swiss Federal Veterinary Office, is the ISO 17025 accredited institute for the diagnosis, surveillance and control of highly contagious epizootics. In addition, the IVI pursues research both on these viruses and emerging viral diseases, as well as their potential transmission to man. The IVI is also the competent authority issuing the licenses required for the sale of veterinary immunobiological products. Basic research is carried out in the fields of immunology and virology, and involves influenza virus, foot-and-mouth disease virus, classical swine fever virus and porcine circovirus type 2. The development and diagnostics branches focus on assays and tests for classical and african swine fever, foot-and-mouth disease, avian influenza, bluetongue, and other highly contagious infectious diseases. In this domain, the IVI occupies a leading position internationally.

For further information please visit: http://www.bvet.admin.ch/ivi/index.html?lang=en

[9] Including viruses and prions.

National biological defence research and development programmes – Facilities

1. What is the name of the facility?

Title / Function	Centre National de Référence (National Reference Center)
Name of facility	**Centre National de Référence pour les Infections Virales Emergentes** (National Reference Center for Emerging Viral Infections)
Affiliation	Laboratoire de Virologie, Hôpitaux Universitaires de Genève (Virological Laboratory, University Hospitals of Geneva)

2. Where is it located (include both address and geographical location)?

Location	Rue Gabrielle Perret-Gentil 4 CH-1211 Genève 14
Geographical location	N 46° 11' 34.01", E 6° 9' 02.47"

3. Floor area of laboratory areas by containment level:

BSL2	0 m^2
BSL3	0 m^2
BSL3Ag	0 m^2
BSL4	22 m^2
Total	22 m^2

Of note, the BSL4 unit is approved for diagnostic purposes only.

4. The organizational structure of each facility.

(i) Total number of personnel

9

(ii) Division of personnel:

Military	0
Civilian	9

(iii) Division of personnel by category:

Scientists	not specified
Engineers	not specified
Technicians	not specified
Administrative and support staff	not specified

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Medicine, biology, microbiology, molecular biology, viral genetics, infectious diseases

(v) Are contractor staff working in the facility? If so, provide an approximate number.

0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Swiss Confederation (Federal Department of Home Affairs)

(vii) What are the funding levels for the following programme areas:

Research	0 %
Development	55 %
Test & Evaluation	15 %
Analysis / Diagnosis	20 %
Education & Training	1 %
Other activities	9 % (costs for maintenance and administration)

(viii) Briefly describe the publication policy of the facility:

Publication in open literature

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

List of publicly available papers and reports published in 2011:

Improved virological outcome in White patients infected with HIV-1 non-B subtypes compared to subtype B. Scherrer AU, Ledergerber B, von Wyl V, Böni J, Yerly S, Klimkait T, Bürgisser P, Rauch A, Hirschel B, Cavassini M, Elzi L, Vernazza PL, Bernasconi E, Held L, Günthard HF; Swiss HIV Cohort Study. Clin Infect Dis. 2011 Dec;53(11):1143-52.

Assessing predicted HIV-1 replicative capacity in a clinical setting. Kouyos RD, von Wyl V, Hinkley T, Petropoulos CJ, Haddad M, Whitcomb JM, Böni J, Yerly S, Cellerai C, Klimkait T, Günthard HF, Bonhoeffer S; Swiss HIV Cohort Study. PLoS Pathog. 2011 Nov;7(11):e1002321.

Astrovirus infection in hospitalized infants with severe combined immunodeficiency after allogeneic hematopoietic stem cell transplantation. W. Wunderli, A. Meerbach, T. Guengoer, C. Berger, O. Greiner, R. Caduff, A. Trkola, W. Bossart, D. Gerlach, M. Schibler, S. Cordey, T. McKee, S. Van Belle, L. Kaiser, C. Tapparel. 2011. PLoS One. 2011;6(11): e27483. Epub 2011 Nov 11.

Strong serological responses and HIV-RNA increase following AS03-adjuvanted pandemic immunization in HIV-infected patient. A. Calmy, M. Bel, A. Nguyen, C. Combescure, C. Delhumeau, S. Meier, S. Yerly, L. Kaiser, B. Hirschel, and C-A. Siegrist. HIV Medicine. 2011. Nov 7. doi: 10.1111/j.1468-1293.2011.00961.x.

Herpes simplex virus load to monitor antiviral treatment after liver transplantation for acute herpetic hepatitis. J. Ambrosioni, L. Kaiser, E. Giostra, P. Meylan, G. Mentha, C. Toso, M. Genevay-Infante, L. Rubbia-Brandt, C. van Delden. Antivir Ther. 2011 Oct 21. doi: 10.3851/IMP1922.

The role of migration and domestic transmission in the spread of HIV-1 non-B subtypes in Switzerland. von Wyl V, Kouyos RD, Yerly S, Böni J, Shah C, Bürgisser P, Klimkait T, Weber R, Hirschel B, Cavassini M, Staehelin C, Battegay M, Vernazza PL, Bernasconi E, Ledergerber B, Bonhoeffer S, Günthard HF; Swiss HIV Cohort Study. J Infect Dis. 2011 Oct 1;204(7):1095-103.

T Lymphocytes Promote the Antiviral and Inflammatory Responses of Airway Epithelial Cells. L. Jornot, S. Cordey, A. Caruso, C. Gerber, M. Vukicevic, C. Tapparel, L. Kaiser, D. Burger, E. Roosnek, J. S. Lacroix, T. Rochat. PLoS ONE. 1 October 2011, 6 (10): e26293.

High specificity of line-immunoassay based algorithms for recent HIV-1 infection independent of viral subtype and stage of disease. Schüpbach J, Bisset LR, Regenass S, Bürgisser P, Gorgievski M, Steffen I, Andreutti C, Martinetti G, Shah C, Yerly S, Klimkait T, Gebhardt M, Schöni-Affolter F, Rickenbach M; Swiss HIV Cohort Study. BMC Infect Dis. 2011 Sep 26;11:254.

Spread of measles virus D4-Hamburg, Europe, 2008-2011. Mankertz A, Mihneva Z, Gold H, Baumgarte S, Baillot A, Helble R, Roggendorf H, Bosevska G, Nedeljkovic J, Makowka A, Hutse V, Holzmann H, Aberle SW, Cordey S, Necula G, Mentis A, Korukluoğlu G, Carr M, Brown KE, Hübschen JM, Muller CP, Mulders MN, Santibanez S. Emerg Infect Dis. 2011 Aug;17(8):1396-401.

Rhinovirus genome variation during chronic upper and lower respiratory tract infections.Tapparel C, Cordey S, Junier T, Farinelli L, Van Belle S, Soccal PM, Aubert JD, Zdobnov E, Kaiser L. PLoS One. 2011;6(6):e21163. Epub 2011 Jun 21.

Analytical validation of a lymphocytic choriomeningitis virus real-time RT-PCR assay. S. Cordey, R. Sahli, M-L. Moraz, C. Estrade, L. Morandi, P. Cherpillod, R N. Charrel, S. Kunz, L. Kaiser. Journal of Virological Methods. 2011, October 2011, 177 (1): 118-122.

Clinical relevance of cytomegalovirus viraemia. EB El Amari, C. Combescure, S. Yerly, A. Calmy, L. Kaiser, B. Hasse, H. Furrer, M. Cavassini, P. Vernazza, H. Hirsch, E. Bernasconi, B. Hirschel, for the Swiss HIV Cohort Study. HIV Medicine. August 2011, 12 (7): 394-402.

Management of resistant mucocutaneous herpes simplex infections in AIDS patients: a clinical and virological challenge. C. Barde, V. Piguet, M. Pechère, .I Masouye, J-H Saurat, W. Wunderli, L. Kaiser and L. Toutous Trellu. HIV Medicine, July 2011. 12 (6): 367-373.

Hepatitis E Virus Seroprevalence and Chronic Infections in Patients with HIV, Switzerland. A. Kenfak-Foguena, F. Schöni-Affolter, P. Bürgisser, A. Witteck, K. E.A. Darling, H. Kovari, L. Kaiser, J-M. Evison, L. Elzi, V. Gurtner-De La Fuente, J. Jost, D. Moradpour, F. Abravanel, J. Izopet, M. Cavassini and the Swiss HIV Cohort Study. Emerging Infectious Diseases. June 2011, 17 (6): 1074-1078.

Impact of synthetic and biological disease modifying antirheumatic drugs on antibody responses to the ASO3-adjuvanted pandemic influenza vaccine. C. Gabay, M. Bel, C. Combescure, C. Ribi, S. Meier, K. Postfay-Barbe, S. Grillet, JD Seebach, L. Kaiser, W. Wunderli, PA Guerne, CA Siegrist, for the H1N1 study group. Arthritis Rheum. June 2011, 63 (6): 1486-1496.

Graft-versus-host disease is the major determinant of humoral responses to the ASO3-adjuvanted influenza A/09/H1N1 vaccine in allogeneic hematopoietic stem cell transplant recipients. B. Mohty, M. Bel, M. Vukicevic, M. Nagy, E. Levrat, S. Meier, S. Grillet, C. Combescure, L. Kaiser, Y. Chalandon, J. Passweg, CA. Siegrist, E. Roosnek. Haematologica, June 2011, 96(6): 896-904.

Efficacy, tolerability and risk factors for virological failure of darunavir-based therapy for treatment-experienced HIV-infected patients: the Swiss HIV Cohort Study. Young J, Scherrer AU, Günthard HF, Opravil M, Yerly S, Böni J, Rickenbach M, Fux CA, Cavassini M, Bernasconi E, Vernazza P, Hirschel B, Battegay M, Bucher HC; Swiss HIV Cohort Study. HIV Med. 2011 May;12(5):299-307. doi: 10.1111/j.1468-1293.2010.00885.x.

Viral suppression rates in salvage treatment with raltegravir improved with the administration of genotypic partially active or inactive nucleoside/tide reverse transcriptase inhibitors. Scherrer AU, von Wyl V, Böni J, Yerly S, Klimkait T, Bürgisser P, Garzoni C, Hirschel B, Cavassini M, Battegay M, Vernazza PL, Bernasconi E, Ledergerber B, Günthard HF; Swiss HIV Cohort Study (SHCS). J Acquir Immune Defic Syndr. 2011 May;57(1):24-31.

Respiratory Viruses in Lung Transplant Recipients: A Critical Review and Pooled Analysis of Clinical Studies. D.-L. Vu, P.-O. Bridevaux, J.-D. Aubert, P. M. Soccal, L. Kaiser. American Journal of Transplantation, May 2011, 11(5): 1071-1078.

Cutaneous lumbosacral Herpes Simplex hospitalized for an advanced disease. L. Toutous-Trellu, K. Moynier Vantieghem, K. Terumalai, F. R. Herrmann, V. Piguet, L. Kaiser, H. Vuagnat, G. Zulian. Journal of the European Academy of Dermatology & Venereology, 2011 May 4. doi: 10.1111/j.1468-3083.2011.04085.x.

Antibody responses to natural influenza A/H1N1/09 disease or following immunization with adjuvanted vaccines, in immunocompetent and immunocompromised children vaccine. S. Meiera, M. Bel, A. L'Huillier, P-A. Crisinel, C. Combescure, L. Kaiser, S. Grillet, K. Pósfay-Barbe, C-A. Siegrist, with the H1N1 Epidemiology Study Group of Geneva. Vaccine, 27 April 2011, 29 (19): 3548-3557.

Early and prolonged antiretroviral therapy is associated with an HIV-1-specific T-cell profile comparable to that of long-term non-progressors. Cellerai C, Harari A, Stauss H, Yerly S, Geretti AM, Carroll A, Yee T, Ainsworth J, Williams I, Sweeney J, Freedman A, Johnson M, Pantaleo G, Kinloch-de Loes S. PLoS One. 2011 Apr 5;6(4):e18164.

Appearance of a novel measles G3 strain in multiple European countries within a two month period, 2010. Brown KE, Mulders MN, Freymuth F, Santibanez S, Mosquera MM, Cordey S, Beirnes J, Shulga S, Myers R, Featherstone D. Euro Surveill. 2011 Apr 28;16(17). pii: 19852.

Clinical features and outcome of hospitalized adults and children with the 2009 influenza A H1N1 infection at Geneva's University Hospital. LM. Lücker, O. KherD, A. Iten, N. Wagner, M. Descombes, M. Camus, L. Kaiser, M. Louis-Simonet. Swiss Med Wkly. March 2011. 18 (141): w13177.

Predictors for the emergence of the 2 multi-nucleoside/nucleotide resistance mutations 69 insertion and Q151M and their impact on clinical outcome in the Swiss HIV cohort study. Scherrer AU, von Wyl V, Joos B, Klimkait T, Bürgisser P, Yerly S, Böni J, Ledergerber B, Günthard HF; Swiss HIV Cohort Study. J Infect Dis. 2011 Mar 15;203(6):791-7.

Ambiguous nucleotide calls from population-based sequencing of HIV-1 are a marker for viral diversity and the age of infection. Kouyos RD, von Wyl V, Yerly S, Böni J, Rieder P, Joos B, Taffé P, Shah C, Bürgisser P, Klimkait T, Weber R, Hirschel B, Cavassini M, Rauch A, Battegay M, Vernazza PL, Bernasconi E, Ledergerber B, Bonhoeffer S, Günthard HF; Swiss HIV Cohort Study. Clin Infect Dis. 2011 Feb 15;52(4):532-9.

The role of penicillin in benign skin rashes in childhood: a propesctive study based on drug rechallenge. JC Caubet, L. Kaiser, B. Lemaître, B. Fellay, A. Gervaix, PA. Eigenmann. J. Allergy Clin. Immunol. January 2011, 127 (1): 218-222.

Replicative phenotyping adds value to genotypic resistance testing in heavily pretreated HIV-infected individuals--the Swiss HIV Cohort Study. Fehr J, Glass TR, Louvel S, Hamy F, Hirsch HH, von Wyl V, Böni J, Yerly S, Bürgisser P, Cavassini M, Fux CA, Hirschel B, Vernazza P, Martinetti G, Bernasconi E, Günthard HF, Battegay M, Bucher HC, Klimkait T; Swiss HIV Cohort Study. J Transl Med. 2011 Jan 21;9:14.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The National Reference Center for Emerging Viral Infections is a federal reference laboratory by order of the Federal Office of Public Health. Its task is the detection of emerging and reemerging viruses of all biosafety levels, especially hemorrhagic fever viruses and variola virus. The BSL4 unit is approved for diagnostic purposes only, which does not allow any culturing or enrichment of such viruses. The National Reference Center for Emerging Viral Infections is part of the Virological Laboratory at the University Hospitals of Geneva. Besides its function as a reference laboratory it also carries out all other tasks related to the Regional Laboratory Network, such as the function of the Virological Laboratory acting as the Regional Competence Center for the primary analysis of virological samples suspicious of a bioterror-related background.

For further information please visit (website in French): http://virologie.hug-ge.ch/

[9] Including viruses and prions.

National biological defence research and development programmes – Facilities

1. What is the name of the facility?

Title / Function	Nationales Referenzzentrum (National Reference Center)
Name of facility	**Nationales Zentrum für Anthrax** (National Reference Center for Anthrax)
Affiliation	Institut für Veterinärbakteriologie, Vetsuisse Fakultät, Universität Bern (Institute of Veterinary Bacteriology, Vetsuisse Faculty, University of Berne)

2. Where is it located (include both address and geographical location)?

Location	Länggassstrasse 122b CH-3012 Bern
Geographical location	N 46° 57' 24.13", E 7° 25' 40.37"

3. Floor area of laboratory areas by containment level:

BSL2	0 m^2
BSL3	20 m^2
BSL3Ag	0 m^2
BSL4	0 m^2
Total	20 m^2

4. The organizational structure of each facility.

(i) Total number of personnel

2

(ii) Division of personnel:

Military	0
Civilian	2

(iii) Division of personnel by category:

Scientists	2
Engineers	0
Technicians	0
Administrative and support staff	0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Microbiology

(v) Are contractor staff working in the facility? If so, provide an approximate number.

0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Swiss Confederation (Federal Department of Home Affairs)

(vii) What are the funding levels for the following programme areas:

Research	10 %
Development	20 %
Test & Evaluation	20 %
Analysis / Diagnosis	30 %
Education & Training	20 %
Other activities	0 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

List of publicly available papers and reports published in 2011:

Pilo, P., Frey, J. (2011) Bacillus anthracis: Molecular taxonomy, population genetics, phylogeny and patho-evolution. Infection, Genetics and Evolution, 11:1218-1224.

Pilo, P., Rossano, A., Bamanga, H., Abdoulkadiri, S., Perreten V., and Frey, J. (2011) Bovine Bacillus anthracis in Cameroon. Applied and Environmental Microbiology, 77:5818-5821.

Tamborrini, M., Bauer, M., Bolz, M., Maho, A., Oberli, M.A., Werz, D.B., Schelling, E., Zinsstag, J., Seeberger, P.H., Frey, J. and Pluschke, G. (2011) Identification of African Bacillus anthracis lineage that lacks expression of the spore surface-associated anthrose-containing oligosaccharide. J. Bacteriol. 193:3506-3511.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The National Reference Center for Anthrax is a federal reference laboratory by order of the Federal Office of Public Health. The main task of the Reference Center is its contribution to the epidemiologic surveillance in Switzerland of critical bacteriological agents that include Bacillus anthracis, Francisella tularensis, Yersinia pestis and Brucella sp.

For further information please visit (website in German):
http://www.vbi.unibe.ch/content/nant/index_ger.html

[9] Including viruses and prions.

National biological defence research and development programmes – Facilities

1. What is the name of the facility?

Title / Function	Centre Régional de Compétence – Laboratoire Régional Ouest (GE) (Regional Competence Center – Regional Laboratory West (GE))
Authority	Département du Territoire, Canton de Genève (Department of Territory, Canton of Geneva)
Name of facility	**Laboratoire de Bactériologie** (Bacteriological Laboratory)
Affiliation	Hôpitaux Universitaires de Genève (University Hospitals of Geneva)

2. Where is it located (include both address and geographical location)?

Location	Rue Gabrielle Perret-Gentil 4 CH-1211 Genève 14
Geographical location	N 46° 11' 36.99", E 6° 8' 57.37"

3. Floor area of laboratory areas by containment level:

BSL2	535 m²
BSL3	58 m²
BSL3Ag	0 m²
BSL4	0 m²
Total	593 m²

4. The organizational structure of each facility.

(i) Total number of personnel

5

(ii) Division of personnel:

Military	0
Civilian	5

(iii) Division of personnel by category:

Scientists	not specified
Engineers	not specified
Technicians	not specified
Administrative and support staff	not specified

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Medicine, biology, microbiology, molecular biology, bacterial genetics, infectious diseases

(v) Are contractor staff working in the facility? If so, provide an approximate number.

0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Fribourg, Genève, Neuchâtel, Valais, Vaud

(vii) What are the funding levels for the following programme areas:

Research	0 %
Development	5 %
Test & Evaluation	40 %
Analysis / Diagnosis	40 %
Education & Training	13 %
Other activities	2 % (costs for maintenance and administration)

(viii) Briefly describe the publication policy of the facility:

Publication in open literature

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

List of publicly available papers and reports published in 2011:

High prevalence of isolates with reduced glycopeptide susceptibility in persistent or recurrent bloodstream infections due to methicillin-resistant Staphylococcus aureus. Uçkay I, Bernard L, Buzzi M, Harbarth S, François P, Huggler E, Ferry T, Schrenzel J, Renzoni A, Vaudaux P, Lew DP. Antimicrob Agents Chemother. 2011 Dec 12.

Methicillin-Susceptible ST398 Staphylococcus aureus Responsible for Bloodstream Infections: An Emerging Human-Adapted Subclone? Valentin-Domelier AS, Girard M, Bertrand X, Violette J, François P, Donnio PY, Talon D, Quentin R, Schrenzel J, van der Mee-Marquet N; for the Bloodstream Infection Study Group of the Réseau des Hygiénistes du Centre (RHC). PLoS One. 2011;6(12):e28369. Epub 2011 Dec 5.

Tn125-related acquisition of blaNDM-like genes in Acinetobacter baumannii. Poirel L, Bonnin RA, Boulanger A, Schrenzel J, Kaase M, Nordmann P. Antimicrob Agents Chemother. 2011 Dec 5.

Predictive Score to Discriminate Kingella kingae From Staphylococcus aureus Arthritis in France. Ceroni D, Dubois Ferrière V, Lamah L, Cherkaoui A, Schrenzel J. Pediatr Infect Dis J. 2011 Dec;30(12):1121-2.

Global analysis of the Staphylococcus aureus response to mupirocin. Reiß S, Pané-Farré J, Fuchs S, François P, Liebeke M, Schrenzel J, Lindequist U, Lalk M, Wolz C, Hecker M, Engelmann S. Antimicrob Agents Chemother. 2011 Nov 21.

Molecular Basis of Virulence in Staphylococcus aureus Mastitis. Le Maréchal C, Seyffert N, Jardin J, Hernandez D, Jan G, Rault L, Azevedo V, François P, Schrenzel J, van de Guchte M, Even S, Berkova N, Thiéry R, Fitzgerald JR, Vautor E, Le Loir Y. PLoS One. 2011;6(11):e27354. Epub 2011 Nov 11.

Responses of Gut Microbiota and Glucose and Lipid Metabolism to Prebiotics in Genetic Obese and Diet-Induced Leptin-Resistant Mice. Everard A, Lazarevic V, Derrien M, Girard M, Muccioli GM, Neyrinck AM, Possemiers S, Van Holle A, François P, de Vos WM, Delzenne NM, Schrenzel J, Cani PD. Diabetes. 2011 Nov;60(11):2775-86. Epub 2011 Sep 20.

Molecular and epidemiological evaluation of strain replacement in patients previously harboring gentamicin-resistant MRSA. De Angelis G, Francois P, Lee A, Schrenzel J, Renzi G, Girard M, Pittet D, Harbarth S. J Clin Microbiol. 2011 Nov;49(11):3880-4. Epub 2011 Sep 14.

How could rapid bacterial identification improve the management of septic patients? Emonet S, Schrenzel J. Expert Rev Anti Infect Ther. 2011 Sep;9(9):707-9.

Altered gut microbiota and endocannabinoid system tone in obese and diabetic leptin-resistant mice: impact on apelin regulation in adipose tissue. Geurts L, Lazarevic V, Derrien M, Everard A, Van Roye M, Knauf C, Valet P, Girard M, Muccioli GG, François P, de Vos WM, Schrenzel J, Delzenne NM, Cani PD. Front Microbiol. 2011;2:149. Epub 2011 Jul 13.

New tests for the diagnosis of tuberculosis. Ninet B, Roux-Lombard P, Schrenzel J, Janssens JP. Rev Mal Respir. 2011 Jun;28(6):823-833. Epub 2011 May 25

σB-dependent yabJ-spoVG operon involved in the regulation of extracellular nuclease, lipase and protease expression in Staphylococcus aureus. Schulthess B, Bloes DA, François P, Girard M, Schrenzel J, Bischoff M, Berger-Bächi B. J Bacteriol. 2011 Sep;193(18):4954-62. Epub 2011 Jul 1.

Role of the SaeRS two-component regulatory system in Staphylococcus epidermidis autolysis and biofilm formation. Lou Q, Zhu T, Hu J, Ben H, Yang J, Yu F, Liu J, Wu Y, Fischer A, Francois P, Schrenzel J, Qu D. BMC Microbiol. 2011 Jun 24;11:146.

Evaluation of matrix-assisted laser desorption/ionization time-of-flight mass spectrometry for the rapid identification of beta-hemolytic streptococci. Cherkaoui A, Emonet S, Fernandez J, Schorderet D, Schrenzel J. J Clin Microbiol. 2011 Aug;49(8):3004-5. Epub 2011 Jun 22.

Melioidosis: a poorly known tropical disease. Abbas M, Emonet S, Schrenzel J, Merlani P, Loutan L, Gétaz L. Rev Med Suisse. 2011 May 11;7(294):1000, 1002-5.

Impact of Combined Low-Level Mupirocin and Genotypic Chlorhexidine Resistance on Persistent Methicillin-Resistant Staphylococcus aureus Carriage After Decolonization Therapy: A Case-control Study. Lee AS, Macedo-Vinas M, François P, Renzi G, Schrenzel J, Vernaz N, Pittet D, Harbarth S. Clin Infect Dis. 2011 Jun;52(12):1422-30.

Molecular analysis of NDM-1-producing enterobacterial isolates from Geneva, Switzerland. Poirel L, Schrenzel J, Cherkaoui A, Bernabeu S, Renzi G, Nordmann P. J Antimicrob Chemother. 2011 Aug;66(8):1730-3. Epub 2011 May 31.

Daptomycin resistance mechanisms in clinically derived Staphylococcus aureus strains assessed by a combined transcriptomics and proteomics approach. Fischer A, Yang SJ, Bayer AS, Vaezzadeh AR, Herzig S, Stenz L, Girard M, Sakoulas G, Scherl A, Yeaman MR, Proctor RA, Schrenzel J, François P. J Antimicrob Chemother. 2011 Aug;66(8):1696-711. Epub 2011 May 28.

Correlation of Daptomycin-Resistance in a Clinical Staphylococcus aureus Strain with Increased Cell Wall Teichoic Acid Production and D-alanylation. Bertsche U, Weidenmaier C, Kuehner D, Yang SJ, Baur S, Wanner S, Francois P, Schrenzel J, Yeaman MR, Bayer AS. Antimicrob Agents Chemother. 2011 Aug;55(8):3922-8. Epub 2011 May 23.

Epidemiology and virulence insights from MRSA and MSSA genome analysis. Lazarevic V, Beaume M, Corvaglia A, Hernandez D, Schrenzel J, François P. Future Microbiol. 2011 May;6:513-32.

Comparative Analysis of PCR-Electrospray Ionization/Mass Spectrometry (MS) and MALDI-TOF/MS for the Identification of Bacteria and Yeast from Positive Blood Culture Bottles. Kaleta EJ, Clark AE, Cherkaoui, Wysocki VH, Ingram EL, Schrenzel J, Wolk DM. Clin Chem. 2011 Jul;57(7):1057-67. Epub 2011 May 16.

The CodY pleiotropic repressor controls virulence in Gram-positive pathogens. Stenz L, Francois P, Whiteson K, Wolz C, Linder P, Schrenzel J. FFEMS Immunol Med Microbiol. 2011 Jul;62(2):123-39. Epub 2011 May 27.

Kingella kingae spondylodiscitis in young children: toward a new approach for bacteriological investigations? A preliminary report. Ceroni D, Cherkaoui A, Kaelin A, Schrenzel J. J Child Orthop. 2010 Apr;4(2):173-5. Epub 2010 Jan 10.

Genome Sequence of two Staphylococcus aureus ovine strains that induce severe (strain O11) and mild (strain O46) mastitis. Le Maréchal C, Hernandez D, Schrenzel J, Even S, Berkova N, Thiéry R, Vautor E, Fitzgerald JR, François P, Le Loir Y. J Bacteriol. 2011 May;193(9):2353-4. Epub 2011 Mar 11.

Modelling the impact of antibiotic use on antibiotic-resistant Escherichia coli using population-based data from a large hospital and its surrounding community. Vernaz N, Huttner B, Muscionico D, Salomon JL, Bonnabry P, López-Lozano JM, Beyaert A, Schrenzel J, Harbarth S. J Antimicrob Chemother. 2011 Apr;66(4):928-35. Epub 2011 Jan 19.

Whole genome sequencing of Staphylococcus aureus strain RN4220, a key laboratory strain used in virulence research, identifies mutations that affect not only virulence factors but also the fitness of the strain. Nair D, Memmi G, Hernandez D, Bard J, Beaume M, Gill S, Francois P, Cheung AL. J Bacteriol. 2011 May;193(9):2332-5. Epub 2011 Mar 4

PCR for the diagnosis of sepsis: hope or hype? Schrenzel J. Crit Care. 2011 Jan 26;15(1):111.

Staphylococcus aureus seroproteomes discriminate ruminant isolates causing mild or severe mastitis. Le Marechal C, Jardin J, Jan G, Even S, Pulido C, Guibert JM, Hernandez D, Francois P, Schrenzel J, Demon D, Meyer E, Berkova N, Thiery R, Vautor E, Le Loir Y. Vet Res. 2011 Feb 15;42(1):35.

The salivary microbiome assessed by a high-throughput and culture-independent approach. Vladimir Lazarevic, Katrine Whiteson, Patrice François, Jacques Schrenzel. Journal of Intergrated OMICS, 2011 Feb; 1(1):28-35

Robustness of loop-mediated isothermal amplification reaction for diagnostic applications. Francois P, Bento M, Hibbs J, Bonetti EJ, Boehme CC, Notomi T, Perkins MD, Schrenzel J. FEMS Immunol Med Microbiol. 2011 Jun;62(1):41-8

Trends in mupirocin resistance in meticillin-resistant Staphylococcus aureus and mupirocin consumption at a tertiary care hospital. Lee AS, Macedo-Vinas M, François P, Renzi G, Vernaz N, Schrenzel J, Pittet D, Harbarth S. J Hosp Infect. 2011 Apr;77(4):360-2. Epub 2011 Jan 26.

Fatal acute melioidosis in a tourist returning from Martinique Island, November 2010. Getaz L, Abbas M, Loutan L, Schrenzel J, Iten A, Simon F, Decosterd A, Studer R, Sudre P, Michel Y, Merlani P, Emonet S. Euro Surveill. 2011 Jan 6;16(1). pii: 19758.

Emergence of Unusual Bloodstream Infections Associated with Pig-Borne-Like Staphylococcus aureus ST398 in France. van der Mee-Marquet N, François P, Domelier-Valentin AS, Coulomb F, Decreux C, Hombrock-Allet C, Lehiani O, Neveu C, Ratovohery D, Schrenzel J, Quentin R; the Bloodstream Infection Study Group of the Réseau des Hygiénistes du Centre (RHC). Clin Infect Dis. 2011 Jan;52(1):152-153.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Bacteriological Laboratory, which is part of the University Hospitals of Geneva, is the Regional Competence Center for the primary analysis of bacteriological samples suspicious of a bioterror-related background. Protocols for the detection of bacteria causing anthrax, plague, tularemia and brucellosis have been established in close collaboration with the National Reference Center for Anthrax. Furthermore, there is a strong link between the Bacteriological Laboratory and the Genomic Research Laboratory that is almost exclusively executing basic and applied research projects under joint leadership. Translational research is actively promoted through this channel of cooperation.

For further information please visit:
http://laboratoire-bacteriologie.hug-ge.ch/en/index.htm

[9] Including viruses and prions.

National biological defence research and development programmes – Facilities

1. What is the name of the facility?

Title / Function	Centre Régional de Compétence – Laboratoire Régional Ouest (GE) (Regional Competence Center – Regional Laboratory West (GE))
Authority	Département du Territoire, Canton de Genève (Department of Territory, Canton of Geneva)
Name of facility	**Laboratoire de Virologie – Centre National de Référence pour les Infections Virales Emergentes** (Virological Laboratory – National Reference Center for Emerging Viral Infections)
Affiliation	Hôpitaux Universitaires de Genève (University Hospitals of Geneva)

This facility is declared in accordance with Form A, part 2 (iii) [➢ pages 38 to 43].

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Centre Régional de Compétence – Laboratoire Régional Ouest (VD) (Regional Competence Center – Regional Laboratory West (VD))
Authority	Service de l'Environnement et de l'Énergie, Département de la Sécurité et de l'Environnement, Canton de Vaud (Service of Environment and Energy, Department of Security and Environment, Canton of Vaud)
Name of facility	**Laboratoires de Diagnostic de l'Institut de Microbiologie** (Diagnostic Laboratories of the Institute of Microbiology)
Affiliation	Département de Pathologie et Médecine de Laboratoire, Centre Hospitalier Universitaire Vaudois (Department of Pathology and Laboratory Medicine, University Hospital Center of Vaud)

2. *Where is it located (include both address and geographical location)?*

Location	Rue du Bugnon 48 CH-1011 Lausanne
Geographical location	N 46° 31' 30.57", E 6° 38' 29.15"

3. *Floor area of laboratory areas by containment level:*

BSL2	not specified
BSL3	not specified
BSL3Ag	0 m²
BSL4	0 m²
Total	not specified

4. The organizational structure of each facility.

(i) Total number of personnel

not specified

(ii) Division of personnel:

Military	0
Civilian	not specified

(iii) Division of personnel by category:

Scientists	not specified
Engineers	not specified
Technicians	not specified
Administrative and support staff	not specified

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Bacteriology, mycology, parasitology, virology

(v) Are contractor staff working in the facility? If so, provide an approximate number.

0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Fribourg, Genève, Neuchâtel, Valais, Vaud

(vii) What are the funding levels for the following programme areas:

Research	not specified
Development	not specified
Test & Evaluation	not specified
Analysis / Diagnosis	not specified
Education & Training	not specified
Other activities	not specified

(viii) Briefly describe the publication policy of the facility:

Publication in open literature

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

List of publicly available papers and reports published in 2011:

Bizzini A et al. Response to: Lack of intra-laboratory reproducibility in using Platelia Aspergillus enzyme immunoassay test for detection of Aspergillus galactomannan antigen. Transpl Infect Dis. 2011 Dec 20.

Bochud et al. IL28B alleles associated with poor hepatitis C virus (HCV) clearance protect against inflammation and fibrosis in patients infected with non-1 HCV genotypes. Hepatology. 2011 Sep 19.

Coulon C et al. Amoebal host-range, host-free survival and disinfection susceptibility of environmental Chlamydiae as compared to Chlamydia trachomatis. FEMS Immunol Med Microbiol. 2011 Dec 5.

Kebbi-Beghdadi C et al. Permissivity of fish cell lines to three Chlamydia-related bacteria: Waddlia chondrophila, Estrella lausannensis and Parachlamydia acanthamoebae. FEMS Immunol Med Microbiol. 2011 Dec;63(3):339-45.

Lienard J et al. Estrella lausannensis, a new star in the Chlamydiales order. Microbes Infect. 2011 Dec;13(14-15):1232-41.

Longet S et al. A Murine Genital-Challenge Model Is a Sensitive Measure of Protective Antibodies against Human Papillomavirus Infection. J Virol. 2011 Dec;85(24):13253-9.

Quarato G et al. The cyclophilin inhibitor alisporivir prevents hepatitis C virus-mediated mitochondrial dysfunction. Hepatology. 2011 Dec 2.

Senn L et al. Which anatomical sites should be sampled for screening of methicillin-resistant Staphylococcus aureus carriage by culture or by rapid PCR test ? Clin Microbiol Infect. 2011 Nov 16.

Vandeputte P et al. Antifungal resistance and new strategies to control fungal infections. Int J Microbiol. 2012;2012:713687.

Zhu J et al. Farnesol-Induced Apoptosis in Candida albicans Is Mediated by Cdr1-p Extrusion and Depletion of Intracellular Glutathione. PLoS One. 2011;6(12):e28830.

Albarraq AM et al. Interrogation of Related Clinical Pan-Azole-Resistant Aspergillus fumigatus Strains: G138C, Y431C, and G434C Single Nucleotide Polymorphisms in cyp51A, Upregulation of cyp51A, and Integration and Activation of Transposon Atf1 in the cyp51A Promoter. Antimicrob Agents Chemother. 2011 Nov;55(11):5113-21.

Alcazar-Fuoli L et al. Three-dimensional models of 14a-sterol demethylase (Cyp51A) from Aspergillus lentulus and Aspergillus fumigatus: an insight into differences in voriconazole interaction. Int J Antimicrob Agents. 2011 Nov;38(5):426-34.

Bochud PY et al. IL28B polymorphisms predict reduction of HCV RNA from the first day of therapy in chronic hepatitis C. J Hepatol. 2011 Nov;55(5):980-8.

Desfarges S et al. LEDGF/p75 TATA-Less Promoter Is Driven by the Transcription Factor Sp1. J Mol Biol. 2011 Nov 25;414(2):177-93.

Gimenez G et al. Insight into cross-talk between intra-amoebal pathogens. BMC Genomics. 2011 Nov 2;12:542.

Giulieri S et al. Development of a duplex real-time PCR for the detection of Rickettsia spp. and typhus group rickettsia in clinical samples. FEMS Immunol Med Microbiol. 2011 Nov 21.

Greub G et al. Rickettsia and other intracellular bacteria: recent outbreaks, novel pathogens, emerging diseases, new tools, and outstanding discoveries. FEMS Immunol Med Microbiol. 2011 Nov 26.

Lange CM et al. Serum ferritin levels are associated with a distinct phenotype of chronic hepatitis C poorly responding to pegylated interferon-α and ribavirin therapy. Hepatology. 2011 Nov 16.

Pelak K et al. Copy Number Variation of KIR Genes Influences HIV-1 Control. PLoS Biol. 2011 Nov;9(11):e1001208.

Probst A et al. Role of Hepatitis C virus genotype 3 in liver fibrosis progression - a systematic review and meta-analysis. J Viral Hepat. 2011 Nov;18(11):745-759.

Senn L et al. Investigation of classical epidemiological links between patients harbouring identical, non-predominant meticillin-resistant Staphylococcus aureus genotypes and lessons for epidemiological tracking. J Hosp Infect. 2011 Nov;79(3):202-5.

Snoeck J et al. Mapping of positive selection sites in the HIV-1 genome in the context of RNA and protein structural constraints. Retrovirology. 2011 Nov 1;8(1):87.

Taylor M et al. Endosymbiotic bacteria associated with nematodes, ticks and amoebae. FEMS Immunol Med Microbiol. 2011 Nov 29.

Vanasse GJ et al. A polymorphism in the leptin gene promoter is associated with anemia in patients with HIV disease. Blood. 2011 Nov 17;118(20):5401-8.

Chappuis A et al. [Zinc for a cold?]. [Article in French] Rev Med Suisse. 2011 Oct 19;7(313):2048.

Cordey S et al. Analytical validation of a lymphocytic choriomeningitis virus real-time RT-PCR assay. J Virol Methods. 2011 Oct;177(1):118-22.

Estrade C et al. Validation of a Low-Cost Human Papillomavirus Genotyping Assay Based on PGMY PCR and Reverse Blotting Hybridization with Reusable Membranes. J Clin Microbiol. 2011 Oct;49(10):3474-81.

Haas DW et al. Pharmacogenomics of HIV therapy: summary of a workshop sponsored by the National Institute of Allergy and Infectious Diseases. HIV Clin Trials. 2011 Sep-Oct;12(5):277-85.

Hara Y et al. Like-acetylglucosaminyltransferase (LARGE)-dependent modification of dystroglycan at Thr-317/319 is required for laminin binding and arenavirus infection. Proc Natl Acad Sci U S A. 2011 Oct 18;108(42):17426-31.

Lee X et al. The Pseudomonas aeruginosa toxin L-2-amino-4-methoxy-trans-3-butenoic acid inhibits growth and induces encystment in Acanthamoeba castellanii. Microbes Infect. 2011 Oct 24.

Maire R, Meylan P. [Facial palsy: update for the practitioner]. [Article in French] Rev Med Suisse. 2011 Oct 5;7(311):1901-7.

Renner P et al. A functional microsatellite of the macrophage migration inhibitory factor gene associated with meningococcal disease. FASEB J. 2011 Oct 11.

Senn L et al. Does Respiratory Infection Due to Chlamydia pneumoniae Still Exist? Clin Infect Dis. 2011 Oct;53(8):847-8.

Vandeputte P et al. In Vivo Systematic Analysis of Candida albicans Zn2-Cys6 Transcription Factors Mutants for Mice Organ Colonization. PLoS One. 2011;6(10):e26962

Baud D, Greub G. Intracellular bacteria and adverse pregnancy outcomes. Clin Microbiol Infect. 2011 Sep;17(9):1312-22.

Baud D et al. Role of Chlamydia trachomatis in Miscarriage. Emerg Infect Dis. 2011 Sep;17(9):1630-5.

Blumer S et al. Waddlia, Parachlamydia and Chlamydiaceae in bovine abortion. Vet Microbiol. 2011 Sep 28;152(3-4):385-93.

Cai T et al. Viral genotype-specific role of PNPLA3, PPARG, MTTP, and IL28B in hepatitis C virus-associated steatosis. J Hepatol. 2011 Sep;55(3):529-535.

Eggimann P et al. Diagnosis of Invasive Candidiasis in the ICU. Ann Intensive Care. 2011 Sep 1;1(1):37.

Kullberg BJ et al. European expert opinion on the management of invasive candidiasis in adults. Clin Microbiol Infect. 2011 Sep;17 Suppl 5:1-12.

Greub G. Infections and pregnancy: from a dream to a nightmare. Clin Microbiol Infect. 2011 Sep;17(9):1283-4.

Lamoth F et al. Parachlamydia and rhabdochlamydia: emerging agents of community-acquired respiratory infections in children. Clin Infect Dis. 2011 Sep;53(5):500-1.

Niemi S et al. Chlamydia-related bacteria in respiratory samples in Finland. Microbes Infect. 2011 Sep;13(10):824-7.

Pasqual G et al. Old World Arenaviruses Enter the Host Cell via the Multivesicular Body and Depend on the Endosomal Sorting Complex Required for Transport. PLoS Pathog. 2011 Sep;7(9):e1002232.

Suppiah V et al. IL28B, HLA-C, and KIR Variants Additively Predict Response to Therapy in Chronic Hepatitis C Virus Infection in a European Cohort: A Cross-Sectional Study. PLoS Med. 2011 Sep;8(9):e1001092.

Hall RA et al. The Quorum-Sensing Molecules Farnesol/Homoserine Lactone and Dodecanol Operate via Distinct Modes of Action in Candida albicans. Eukaryot Cell. 2011 Aug;10(8):1034-42.

Lange CM et al. Impact of donor and recipient IL28B rs12979860 genotypes on hepatitis C virus liver graft reinfection. J Hepatol. 2011 Aug;55(2):322-7.

Pasquato A et al. Arenavirus envelope glycoproteins mimic autoprocessing sites of the cellular proprotein convertase subtilisin kexin isozyme-1/site-1 protease. Virology. 2011 Aug 15;417(1):18-26.

Croxatto A et al. Applications of MALDI-TOF mass spectrometry in clinical diagnostic microbiology. FEMS Microbiol Rev. 2011 Jul 13.

Fayet Mello A et al. Cell disposition of raltegravir and newer antiretrovirals in HIV-infected patients: high inter-individual variability in raltegravir cellular penetration. J Antimicrob Chemother. 2011 Jul;66(7):1573-81.

Lefebvre G et al. Analysis of HIV-1 Expression Level and Sense of Transcription by High-Throughput Sequencing of the Infected Cell. J Virol. 2011 Jul;85(13):6205-11.

Lienard J et al. Development of a new chlamydiales-specific real-time PCR and its application to respiratory clinical samples. J Clin Microbiol. 2011 Jul;49(7):2637-42.

Meylan S et al. A gene-rich, transcriptionally active environment and the pre-deposition of repressive marks are predictive of susceptibility to KRAB/KAP1-mediated silencing. BMC Genomics. 2011 Jul 26;12(1):378.

Pascual A et al. Neonatal herpes simplex virus infections in Switzerland: results of a 6-year national prospective surveillance study. Clin Microbiol Infect. 2011 Jul 26.

Paul D et al. NS4B Self-Interaction through Conserved C-Terminal Elements Is Required for the Establishment of Functional Hepatitis C Virus Replication Complexes. J Virol. 2011 Jul;85(14):6963-76.

Baud D et al. Waddlia chondrophila: From Bovine Abortion to Human Miscarriage. Clin Infect Dis. 2011 Jun;52(12):1469-71.

Bridier A et al. Dynamics of the Action of Biocides in Pseudomonas aeruginosa Biofilms. Antimicrob Agents Chemother. 2011 Jun;55(6):2648-54.

Evangelou E et al. Impact of phenotype definition on genome-wide association signals: empirical evaluation in human immunodeficiency virus type 1 infection. Am J Epidemiol. 2011 Jun 1;173(11):1336-42.

Kaufmann A et al. Hepatitis E Virus Seroprevalence among Blood Donors in Southwest Switzerland. PLoS One. 2011;6(6):e21150.

Kebbi-Beghdadi C et al. Permissivity of Vero cells, human pneumocytes and human endometrial cells to Waddlia chondrophila. Microbes Infect. 2011 Jun;13(6):566-74.

Kenfak-Foquena A et al. Hepatitis E Virus Seroprevalence and Chronic Infections in Patients with HIV, Switzerland. Emerg Infect Dis. 2011 Jun;17(6):1074-8.

Manuel O et al. Low-dose intradermal versus intramuscular trivalent inactivated seasonal influenza vaccine in lung transplant recipients. J Heart Lung Transplant. 2011 Jun;30(6):679-84.

Clerc O et al. Adult native septic arthritis: a review of 10 years of experience and lessons for empirical antibiotic therapy. J Antimicrob Chemother. 2011 May;66(5):1168-73.

D'Acremont V et al. [Rapid diagnostic tests (RDT): the cure-all for the practitioner?]. [Article in French] Rev Med Suisse. 2011 May 11;7(294):984-6, 988-90.

Decrausaz L et al. A novel mucosal orthotopic murine model of human papillomavirus-associated genital cancers. Int J Cancer. 2011 May 1;128(9):2105-13.

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Ferrari S et al. Contribution of CgPDR1-Regulated Genes in Enhanced Virulence of Azole-Resistant Candida glabrata PLoS ONE 6(3): e17589.

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Lagging M et al. Response Prediction in Chronic Hepatitis C by Assessment of IP-10 and IL28B-Related Single Nucleotide Polymorphisms. PLoS One. 2011 Feb 24;6(2):e17232.

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Popescu CI et al. NS2 Protein of Hepatitis C Virus Interacts with Structural and Non-Structural Proteins towards Virus Assembly. PLoS Pathog. 2011 Feb 10;7(2):e1001278.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Diagnostic Laboratories of the Institute of Microbiology, which are part of the University Hospital Center of Vaud, are the Regional Competence Center for the primary analysis of samples suspicious of a bioterror-related background. Due to its

[9] Including viruses and prions.

other diagnostic activities, it is able to cover the whole spectrum of microbiology.

For further information please visit (website in French):
http://www.chuv.ch/dml/dml_home/dml_imu_home.htm

National biological defence research and development programmes – Facilities

1. What is the name of the facility?

Title / Function	Regionales Kompetenzzentrum – Regionallabor Zentrum West (BE) (Regional Competence Center – Regional Laboratory West Central (BE))
Authority	Kantonales Laboratorium Bern, Gesundheits- und Fürsorgedirektion, Kanton Bern (Cantonal Laboratory of Berne, Directorate of Public Health and Welfare, Canton of Berne)
Name of facility	**Labor Spiez** (Spiez Laboratory)
Affiliation	Bundesamt für Bevölkerungsschutz, Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport (Federal Office for Civil Protection, Federal Department of Defence, Civil Protection and Sports)

This facility is declared in accordance with Form A, part 2 (iii) [➢ pages 26 to 32].

National biological defence research and development programmes – Facilities

1. What is the name of the facility?

Title / Function	Regionales Kompetenzzentrum – Regionallabor Zentrum Ost (LU) (Regional Competence Center – Regional Laboratory East Central (LU))
Authority	Luzerner Kantonsspital, Kanton Luzern (Cantonal Hospital of Lucerne, Canton of Lucerne)
Name of facility	**Institut für Medizinische Mikrobiologie** (Department of Medical Microbiology)
Affiliation	Zentrum für LaborMedizin, Luzerner Kantonsspital (Center for Laboratory Medicine, Cantonal Hospital of Luzern)

2. Where is it located (include both address and geographical location)?

Location	Kantonsspital Haus 47 CH-6000 Luzern 16
Geographical location	N 47° 3' 32.45", E 8° 18' 1.17"

3. Floor area of laboratory areas by containment level:

BSL2	716 m^2
BSL3	62 m^2
BSL3Ag	0 m^2
BSL4	0 m^2
Total	778 m^2

4. The organizational structure of each facility.

(i) Total number of personnel

7

(ii) Division of personnel:

Military	0
Civilian	7

(iii) Division of personnel by category:

Scientists	not specified
Engineers	not specified
Technicians	not specified
Administrative and support staff	not specified

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Medical microbiology (all disciplines; diagnostics and applied research)

(v) Are contractor staff working in the facility? If so, provide an approximate number.

0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Luzern, Nidwalden, Obwalden, Schwyz, Uri

(vii) What are the funding levels for the following programme areas:

Research	10 %
Development	0 %
Test & Evaluation	10 %
Analysis / Diagnosis	70 %
Education & Training	10 %
Other activities	0 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

List of publicly available papers and reports published in 2011:

Macheras, E, Roux AL, Bastian S, Leao SC, Palaci M, Sivadon-Tardy V, Gutierrez C, Richter E, Rüsch-Gerdes S, Pfyffer GE, Bodmer T, Cambau E, Gaillard JL, and Heym B. Multilocus sequence analysis and rpoB sequencing of Mycobacterium abscessus (sensu lato) strains. J Clin Microbiol 2011;49:491

Fenner, L, Gagneux S, Helbling P, Battegay M, Rieder HL, Pfyffer GE, Zwahlen M, et al. and the Swiss HIV Cohort and Molecular Epidemiology of Tuberculosis Study Groups. Mycobacterium tuberculosis transmission in a country with low tuberculosis incidence: Role of immigration and HIV infection. J Clin Microbiol 2011;50 (published ahead of print)

Pfyffer GE, Palicova F. Mycobacterium: General characteristics, laboratory detection, and staining procedures. In: Versalovic J et al., eds. Manual of Clinical Microbiology, 10th ed. Washington DC, American Society for Microbiology Press; 2011: 472-502.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Department of Medical Microbiology, Luzerner Kantonsspital, is accredited (ISO / EN 17025) for clinical bacteriology, mycology, mycobacteriology, parasitology, molecular diagnostics, serology, blood banking (serological and molecular markers of donor blood). The current focus of research activities is on mycobacteria as well as on molecular aspects of MRSA. In addition, it is the Regional Competence Center for primary analysis of samples suspicious of a bioterror-related background.

For further information please visit (website in German):
http://www.ksl.ch/standorte/luzern/kliniken/zentrum-fuer-labormedizin/institut-fuer-medizinische-mikrobiologie.html

[9] Including viruses and prions.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Regionales Kompetenzzentrum – Regionallabor Ost (ZH) (Regional Competence Center – Regional Laboratory East (ZH))
Authority	Amt für Abfall, Wasser, Energie und Luft, Baudirektion, Kanton Zürich (Office for Waste, Water, Energy and Air, Directorate of Construction, Canton of Zurich)
Name of facility	**Institut für Medizinische Mikrobiologie** (Institute of Medical Microbiology)
Affiliation	Medizinische Fakultät, Universität Zürich (Faculty of Medicine, University of Zurich)

2. *Where is it located (include both address and geographical location)?*

Location	Gloriastrasse 30/32 CH-8006 Zürich
Geographical location	N 47° 22' 36.20", E 8° 33' 11.18"

3. *Floor area of laboratory areas by containment level:*

BSL2	0 m²
BSL3	20 m²
BSL3Ag	0 m²
BSL4	0 m²
Total	20 m²

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

2

(ii) Division of personnel:

Military	0
Civilian	2

(iii) Division of personnel by category:

Scientists	1
Engineers	0
Technicians	1
Administrative and support staff	0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Microbiology, bacteriology, mycobacteriology, mycology, molecular biology, serology

(v) Are contractor staff working in the facility? If so, provide an approximate number.

0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Appenzell Ausserrhoden, Appenzell Innerrhoden, Glarus, Graubünden, Sankt Gallen, Schaffhausen, Thurgau, Zug, Zürich, and the Principality of Liechtenstein

(vii) What are the funding levels for the following programme areas:

Research	0 %
Development	0 %
Test & Evaluation	10 %
Analysis / Diagnosis	80 %
Education & Training	10 %
Other activities	0 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

List of publicly available papers and reports published in 2011:

Hobbie SN, Kaiser M, Schmidt S, Shcherbakov D, Janusic T, Brun R, Böttger EC (2011) Genetic reconstruction of protozoan rRNA decoding sites provides a rationale for paromomycin activity against Leishmania and Trypanosoma. PLoS Negl. Trop. Dis. 5:e1161.

Akshay S, Bertea M, Hobbie SN, Oettinghaus B, Shcherbakov D,Böttger EC, Akbergenov R (2011) Phylogenetic sequence variations in bacterial rRNA affect species-specific susceptibility to drugs targeting protein synthesis. Antimicrob. Agents Chemother. 55:4096-4102.

Akbergenov R, Shcherbakov D, Matt T, Duscha S, Meyer M, Wilson DN, Böttger EC (2011) Molecular basis for the selectivity of antituberculosis compounds capreomycin and viomycin. Antimicrob. Agents Chemother. 55:4712-4717.

Dengler V, Stutzmann-Meier P, Heusser R, Berger-Bächi B, McCallum N (2011) Induction kinetics of the Staphylococcus aureus cell wall stress stimulon in response to different cell wall active antibiotics. BMC Microbiol. 11:16.

McCallum N, Stutzmann-Meier P, Heusser R, Berger-Bächi B (2011) Mutational analyses of open reading frames within the vraSR operon and their roles in the cell wall stress response of Staphylococcus aureus . Antimicrob. Agents Chemother. 55:1391-1402.

Quiblier C, Zinkernagel AS, Schuepbach RA, Berger-Bächi B, Senn MM (2011) Contribution of SecDF to Staphylococcus aureus resistance and expression of virulence factors. BMC Microbiol. 11:72.

Schulthess B, Bloes DA, François P, Girard M, Schrenzel J, Bischoff M, Berger-Bächi B (2011) The sigmaB-dependent yabJ-spoVG operon is involved in the regulation of extracellular nuclease, lipase, and protease expression in Staphylococcus aureus. J. Bacteriol. 193:4954-4962.

Ferraris DM, Sbadrdella D, Petrera A, Marini S, Amstutz B, Coletta M, Sander P, Rizzi M (2011) Crystal structure of Mycobacterium tuberculosis ZMP1, a metalloprotease involved in pathogenicity. J. Biol. Chem. 286:32475-32482.

Johansen P, Fettelschoss A, Amstutz B, Selchow P, Wäckerle-Men Y, Keller P, Deretic V, Held L, Kündig TM, Böttger EC, Sander P (2011) Relief from zmp1-mediated arrest of phagosome maturation is associated with facilitated presentation and enhanced immunogenicity of mycobacterial antigens. Clin. Vaccine Immunol. 18:907-913.

Widdick DA, Hicks MG, Thompson BJ Tschumi A, Chandra G, Sutcliffe IC, Brülle JK, Sander P, Palmer T, Hutchings MI (2011) Dissecting the complete lipoprotein biogenesis pathway in Streptomyces scabies. Mol. Microbiol. 80:1395-1412.

Over B, Heusser R, McCallum N, Schulthess B, Kupferschmid P, Gaiani JM, Sifri CD, Berger-Bächi B, Stutzmann-Meier P (2011) LytR-CpsA-Psr proteins in Staphylococcus aureus display partial functional redundancy and the deletion of all three severely impairs septum placement and cell separation. FEMS Microbiol. Lett. 320:142-151.

Zbinden R, Köhler N, Bloemberg GV (2011) A recA based PCR assay for accurate differentiation of Streptococcus pneumoniae from other viridans streptococci. J. Clin. Microbiol. 49:523-527.

Preiswerk B, Ullrich S, Speich R, Bloemberg GV, Hombach M (2011) Human infection with Delftia tsuruhatensis isolated from a central venous catheter. J. Med. Microbiol. 60:246-248.

Tortoli E, Böttger EC, Fabio A, Falsen E, Gitti Z, Grottola A, Klenk H-P, Mannino R, Mariottini A, Messinò M, Pecorari M, Rumpianesi F (2011) Mycobacterium europaeum sp. nov., a scotochromogenic species related to Mycobacterium simiae complex. Int. J. Syst. Evol. Microbiol. 61:1606-1611.

Geser N, Stephan R, Kuhnert P, Zbinden R, Käppeli U, Cernela N, Hächler H (2011) Fecal carriage of extended-spectrum beta-lactamase producing Enterobacteriaceae in swine and cattle at slaughter in Switzerland. J. Food Prot. 74:446-449.

Rossi F, Khanduja JS, Bortoluzzi A, Houghton J, Sander P, Güthlein C, Davis EO, Springer B, Böttger EC, Relini A, Penco A, Muniyappa K, Rizzi M (2011) The biological and structural characterization of Mycobacterium tuberculosis UvrA provides novel insights into its mechanisms of action. Nucleic Acids Res. 39:7316-7328.

Williams A, Güthlein C, Beresford N, Böttger EC, Springer B, Davis EO (2011) UvrD2 is essential in Mycobacterium tuberculosis, but its helicase activity is not required. J. Bacteriol. 193:4487-4494.

Rampini S, Bloemberg GV, Keller P, Büchler A, Dollenmaier G, Speck R, Böttger EC (2011) Broad-range 16S rRNA gene PCR for diagnosis of culture-negative bacterial infection. Clin. Infect. Dis. 53:1245-1251.

Polsfuss S, Bloemberg GV, Giger J, Meyer V, Böttger EC, Hombach M (2011) A practical approach for reliable detection of AmpC beta-lactamase producing Enterobacteriaceae. J. Clin. Microbiol. 49:2798-2803.

Peter-Getzlaff S, Polsfuss S, Poledica M, Hombach M, Giger J, Böttger EC, Zbinden R, Bloemberg GV (2011) Detection of AmpC beta-lactamase in Escherichia coli: comparison of three phenotypic confirmation assays and gentic analysis. J. Clin. Microbiol. 49:2924-2932.

Zbinden A, Zbinden R, Natalucci G, Zimmermann R, Bucher HU, Kraff A (2011) How useful is routine amniotic fluid and neonatal surface swab microbiology at Caesarean section? Z Geburtshilfe Neonatol. 215:205-208.

Meier S, Weber R, Zbinden R, Ruef C, Hasse B (2011) Extended-spectrum β-lactamase-producing gram-negative pathogens in community-acquired urinary tract infections: an increasing callenge for antimicrobial therapy. Infection 39:333-340.

Sahraoui N, Ballif M, Zelleg S, Yousfi N, Ritter C, Friedel U, Amstutz B, Yala D, Boulahbal F, Guetarni D, Zinsstag J, Keller PM (2011) Mycobacterium algericum sp. nov., a novel rapidly growing species related to M. terrae complex and associated with goat lung lesions. Int. J. Syst. Evol. Microbiol. 61:1870-1874.

Sirgel FA, Tait M, Warren RM, Streicher EM, Böttger EC, van Helden PD, Gey van Pittius NC, Coetzee G, Hoosain EY, Chabula-Nxiweni M, Hayes C, Victor TM, Trollip A (2011) Mutations in the rrs A1401G gene and phenotypic resistance to amikacin and capreomycin in Mycobacterium tuberculosis. Microb. Drug Resist., epub ahead of print.

Akbergenov R, Scherbakov D, Matt T, Duscha S, Meyer M, Perez Fernandez D, Pathak R, Harish S, Kudyba I, Dubbaka SR, Silva S, Ruiz Ruiz MC, Salian S, Vasella A, Böttger EC (2011) Decoding and deafness: two sides of a coin. In: Ribosomes. Eds: Rodnina MV, Wintermeyer W, Green R. Springer Verlag Vienna, Austria, p. 249-261.

Böttger EC (2011) Drug resistance in Mycobacterium tuberculosis: molecular mechanisms and laboratory susceptibility testing. In: Progress in respiratory research, Vol. 40: Antituberculosis Chemotherapy. Eds: Donald PR, van Helden PD. Karger AG, Basel, Switzerland.

Müller B, Warren RM, Williams M, Böttger EC, Gey van Pittius NC, Victor TC (2011) Acquisition, transmission and amplification of drug-resistant tuberculosis. In: Progress in respiratory research, Vol. 40: Antituberculosis Chemotherapy. Eds: Donald PR, van Helden PD. Karger AG, Basel, Switzerland.

Zbinden R, von Graevenitz A (2011) Actinobacillus, Capnocytophaga, Eikenella, Kingella, Pasteurella and other fastidious or rarely encountered gram-negative rods. In: Manual of Clinical Microbiology, 10. Edition. Eds: Versalovic J, Carroll KC, Jorgensen JH, Funke G, Landry ML, Warnock DW. ASM press, Washington DC, USA, p. 574-588.

Böttger EC (2011) The ins and outs of Mycobacterium tuberculosis drug susceptibility testing. Clin. Microbiol. Infect. 17:1128-1134.

Zbinden A, Keller PM, Bloemberg GV (2011) Rapid molecular detection of tuberculosis.N. Engl. J. Med. 364:183.

van Ingen J, de Lange WC, Boeree MJ, Iseman MD, Daley CL, Heifets LB, Böttger EC, van Soolingen D (2011) XDR Tuberculosis. Lancet Infect. Dis. 11:585.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Institute of Medical Microbiology at the University of Zurich is the Regional Competence Center for the primary analysis of bacteriological samples suspicious of a bioterror-related background. This represents an additional and not a continuous task of the diagonstics laboratory proficient in bacteriology, mycology and serology.

For further information please visit: http://www.imm.uzh.ch/index_en.html

[9] Including viruses and prions.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Regionales Kompetenzzentrum – Regionallabor Ost (ZH) (Regional Competence Center – Regional Laboratory East (ZH))
Authority	Amt für Abfall, Wasser, Energie und Luft, Baudirektion, Kanton Zürich (Office for Waste, Water, Energy and Air, Directorate of Construction, Canton of Zurich)
Name of facility	**Institut für Medizinische Virologie** (Institute of Medical Virology)
Affiliation	Medizinische Fakultät, Universität Zürich (Faculty of Medicine, University of Zurich)

2. *Where is it located (include both address and geographical location)?*

Location	Winterthurerstrasse 190 CH-8057 Zürich
Geographical location	N 47° 23' 52.08", E 8° 33' 01.92"

3. *Floor area of laboratory areas by containment level:*

BSL2	0 m²
BSL3	25 m²
BSL3Ag	0 m²
BSL4	0 m²
Total	25 m²

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

2

(ii) Division of personnel:

Military	0
Civilian	2

(iii) Division of personnel by category:

Scientists	1
Engineers	0
Technicians	1
Administrative and support staff	0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Microbiology (virology)

(v) Are contractor staff working in the facility? If so, provide an approximate number.

0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Appenzell Ausserrhoden, Appenzell Innerrhoden, Glarus, Graubünden, Sankt Gallen, Schaffhausen, Thurgau, Zug, Zürich, and the Principality of Liechtenstein

(vii) What are the funding levels for the following programme areas:

Research	0 %
Development	0 %
Test & Evaluation	10 %
Analysis / Diagnosis	80 %
Education & Training	10 %
Other activities	0 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

List of publicly available papers and reports published in 2011:

Artificial 64-Residue HIV-1 Enhancer-Binding Peptide Is a Potent Inhibitor of Viral Replication in HIV-1-Infected Cells. Oufir M, Bisset LR, Hoffmann SR, Xue G, Klauser S, Bergamaschi B, Gervaix A, Böni J, Schüpbach J, Gutte B. Adv Virol. 2011;2011:165871. Epub 2011 Sep 19.

Assessing predicted HIV-1 replicative capacity in a clinical setting. Kouyos RD, von Wyl V, Hinkley T, Petropoulos CJ, Haddad M, Whitcomb JM, Böni J, Yerly S, Cellerai C, Klimkait T, Günthard HF, Bonhoeffer S; Swiss HIV Cohort Study. PLoS Pathog. 2011 Nov;7(11):e1002321. Epub 2011 Nov 3.

6.Characterization of human immunodeficiency virus type 1 (HIV-1) diversity and tropism in 145 patients with primary HIV-1 infection. Rieder P, Joos B, Scherrer AU, Kuster H, Braun D, Grube C, Niederöst B, Leemann C, Gianella S, Metzner KJ, Böni J, Weber R, Günthard HF. Clin Infect Dis. 2011 Dec;53(12):1271-9. Epub 2011 Oct 12.

Improved virological outcome in White patients infected with HIV-1 non-B subtypes compared to subtype B. Scherrer AU, Ledergerber B, von Wyl V, Böni J, Yerly S, Klimkait T, Bürgisser P, Rauch A, Hirschel B, Cavassini M, Elzi L, Vernazza PL, Bernasconi E, Held L, Günthard HF; Swiss HIV Cohort Study. Clin Infect Dis. 2011 Dec;53(11):1143-52. Epub 2011 Oct 13.

High specificity of line-immunoassay based algorithms for recent HIV-1 infection independent of viral subtype and stage of disease. Schüpbach J, Bisset LR, Regenass S, Bürgisser P, Gorgievski M, Steffen I, Andreutti C, Martinetti G, Shah C, Yerly S, Klimkait T, Gebhardt M, Schöni-Affolter F, Rickenbach M; Swiss HIV Cohort Study, Barth J, Battegay M, Bernascon E, Böni J, Bucher HC, Bürgisser P, Burton-Jeangros C, Calmy A, Cavassini M, Dubs R, Egger M, Elzi L, Fehr J, Fischer M, Flepp M, Francioli P, Furrer H, Fux CA, Gorgievski M, Günthard H, Hasse B, Hirsch HH, Hirschel B, Hösli I, Kahlert C, Kaiser L, Keiser O, Kind C, Klimkait T, Kovari H, Ledergerber B, Martinetti G, Martinez de Tejada B, Müller N, Nadal D, Pantaleo G, Rauch A, Regenass S, Rickenbach M, Rudin C, Schmid P, Schultze D, Schöni-Affolter F, Schüpbach J, Speck R, Taffé P, Telenti A, Trkola A, Vernazza P, von Wyl V, Weber R, Yerly S. BMC Infect Dis. 2011 Sep 26;11:254.

The role of migration and domestic transmission in the spread of HIV-1 non-B subtypes in Switzerland. von Wyl V, Kouyos RD, Yerly S, Böni J, Shah C, Bürgisser P, Klimkait T, Weber R, Hirschel B, Cavassini M, Staehelin C, Battegay M, Vernazza PL, Bernasconi E, Ledergerber B, Bonhoeffer S, Günthard HF; Swiss HIV Cohort Study. J Infect Dis. 2011 Oct 1;204(7):1095-103.

Predictors for the emergence of the 2 multi-nucleoside/nucleotide resistance mutations 69 insertion and Q151M and their impact on clinical outcome in the Swiss HIV cohort study. Scherrer AU, von Wyl V, Joos B, Klimkait T, Bürgisser P, Yerly S, Böni J, Ledergerber B, Günthard HF; Swiss HIV Cohort Study. J Infect Dis. 2011 Mar 15;203(6):791-7. Epub 2011 Feb 1.

Viral suppression rates in salvage treatment with raltegravir improved with the administration of genotypic partially active or inactive nucleoside/tide reverse transcriptase inhibitors. Scherrer AU, von Wyl V, Böni J, Yerly S, Klimkait T, Bürgisser P, Garzoni C, Hirschel B, Cavassini M, Battegay M, Vernazza PL, Bernasconi E, Ledergerber B, Günthard HF; Swiss HIV Cohort Study (SHCS). J Acquir Immune Defic Syndr. 2011 May;57(1):24-31.

Ambiguous nucleotide calls from population-based sequencing of HIV-1 are a marker for viral diversity and the age of infection. Kouyos RD, von Wyl V, Yerly S, Böni J, Rieder P, Joos B, Taffé P, Shah C, Bürgisser P, Klimkait T, Weber R, Hirschel B, Cavassini M, Rauch A, Battegay M, Vernazza PL, Bernasconi E, Ledergerber B, Bonhoeffer S, Günthard HF; Swiss HIV Cohort Study. Clin Infect Dis. 2011 Feb 15;52(4):532-9. Epub 2011 Jan 10.

Astrovirus infection in hospitalized infants with severe combined immunodeficiency after allogeneic hematopoietic stem cell transplantation. Wunderli W, Meerbach A, Guengoer T, Berger C, Greiner O, Caduff R, Trkola A, Bossart W, Gerlach D, Schibler M, Cordey S, McKee TA, Van Belle S, Kaiser L, Tapparel C. PLoS One. 2011;6(11):e27483. Epub 2011 Nov 11.

Systemic antibody responses to gut commensal bacteria during chronic HIV-1 infection. Haas A, Zimmermann K, Graw F, Slack E, Rusert P, Ledergerber B, Bossart W, Weber R, Thurnheer MC, Battegay M, Hirschel B, Vernazza P, Patuto N, Macpherson AJ, Günthard HF, Oxenius A; Swiss HIV Cohort Study. Gut. 2011 Nov;60(11):1506-19. Epub 2011 Apr 21.

Synthetic virus-like particles and conformationally constrained peptidomimetics in vaccine design. Riedel T, Ghasparian A, Moehle K, Rusert P, Trkola A, Robinson JA. Chembiochem. 2011 Dec 16;12(18):2829-36. doi: 10.1002/cbic.201100586. Epub 2011 Nov 11.

Interaction of the gp120 V1V2 loop with a neighboring gp120 unit shields the HIV envelope trimer against cross-neutralizing antibodies. Rusert P, Krarup A, Magnus C, Brandenberg OF, Weber J, Ehlert AK, Regoes RR, Günthard HF, Trkola A. J Exp Med. 2011 Jul 4;208(7):1419-33. Epub 2011 Jun 6.

MPER-specific antibodies induce gp120 shedding and irreversibly neutralize HIV-1. Ruprecht CR, Krarup A, Reynell L, Mann AM, Brandenberg OF, Berlinger L, Abela IA, Regoes RR, Günthard HF, Rusert P, Trkola A. J Exp Med. 2011 Mar 14;208(3):439-54. Epub 2011 Feb 28.

Interferon-induced antiviral protein MxA interacts with the cellular RNA helicases UAP56 and URH49. Wisskirchen C, Ludersdorfer TH, Müller DA, Moritz E, Pavlovic J. J Biol Chem. 2011 Oct 7;286(40):34743-51. Epub 2011 Aug 22.

The cellular RNA helicase UAP56 is required for prevention of double-stranded RNA formation during influenza A virus infection. Wisskirchen C, Ludersdorfer TH, Müller DA, Moritz E, Pavlovic J. J Virol. 2011 Sep;85(17):8646-55. Epub 2011 Jun 15.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Institute of Medical Virology at the University of Zurich is the Regional Competence Center for the primary analysis of viral samples suspicious of a bioterror-related background. This represents an additional and not a continuous task of the viral diagonstics laboratory.

For further information please visit: http://www.virology.uzh.ch/index_en.html

[9] Including viruses and prions.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Regionales Kompetenzzentrum – Regionallabor Nord (BS) (Regional Competence Center – Regional Laboratory North (BS))
Authority	Kantonales Laboratorium Basel-Stadt, Kanton Basel-Stadt (Cantonal Laboratory of Basel-Stadt, Canton of Basel-Stadt)
Name of facility	**Kantonales Laboratorium Basel-Stadt** (Cantonal Laboratory of Basel-Stadt)
Affiliation	Bereich Gesundheitsschutz, Gesundheitsdepartement, Kanton Basel-Stadt (Health Protection Division, Public Health Department, Canton of Basel-Stadt)

2. *Where is it located (include both address and geographical location)?*

Location	Kannenfeldstrasse 2 CH-4056 Basel
Geographical location	N 47° 33' 43.48", E 7° 34' 26.85"

3. *Floor area of laboratory areas by containment level:*

BSL2	14 m²
BSL3	36 m²
BSL3Ag	0 m²
BSL4	0 m²
Total	50 m²

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

4

(ii) Division of personnel:

Military	0
Civilian	4

(iii) Division of personnel by category:

Scientists	3
Engineers	0
Technicians	1
Administrative and support staff	0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Microbiology, molecular biology, chemistry, inspection

(v) Are contractor staff working in the facility? If so, provide an approximate number.

0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Aargau, Basel-Landschaft, Basel-Stadt, Solothurn

(vii) What are the funding levels for the following programme areas:

Research	0 %
Development	15 %
Test & Evaluation	40 %
Analysis / Diagnosis	40 %
Education & Training	5 %
Other activities	0 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

List of publicly available papers and reports published in 2011:

Bagutti, C., M. Alt, M. Schmidlin, G. Vogel, U. Vogeli, and P. Brodmann. (2011) Detection of adeno- and lentiviral (HIV1) contaminations on laboratory surfaces as a tool for the surveillance of biosafety standards. Journal of Applied Microbiology 111:70-82.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Cantonal Laboratory of Basel-Stadt is the Regional Competence Center for the primary analysis of samples suspicious of a bioterror-related background. The Regional Laboratory North is also appointed reference laboratory by the Federal Office of Environment for the two following fields of activities: Analysis of samples taken in and around laboratories subjected to the Containment Ordinance, and analysis of samples taken in the environment for the surveillance of the Release Ordinance. Microbiological and molecular biological methods have been established for the identification of a wide range of microorganisms in environmental samples, including relevant pathogens such as Staphylococcus aureus, Pseudomonas aeruginosa, Bacillus anthracis, as well as adenoviruses and lentiviruses. Further methods for the detection of bioterror agents have been implemented according to the Regional Laboratory Network.

For further information please visit:
http://www.kantonslabor-bs.ch/content.cfm?nav=1&content=3

[9] Including viruses and prions.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Centro Regionale di Competenza – Laboratorio Regionale Sud (TI) (Regional Competence Center – Regional Laboratory South (TI))
Authority	Istituto Cantonale di Microbiologia, Cantone Ticino (Cantonal Institute of Microbiology, Canton of Ticino)
Name of facility	**Istituto Cantonale di Microbiologia** (Cantonal Institute of Microbiology)
Affiliation	Divisione della Salute Pubblica, Dipartimento della Sanità e della Socialità, Cantone Ticino (Public Health Division, Department of Public Health and Welfare, Canton of Ticino)

2. *Where is it located (include both address and geographical location)?*

Location	Via Mirasole 22A CH-6500 Bellinzona
Geographical location	N 46° 11' 54.24", E 9° 01' 04.80"

3. *Floor area of laboratory areas by containment level:*

BSL2	54 m²
BSL3	36 m²
BSL3Ag	0 m²
BSL4	0 m²
Total	90 m²

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

2

(ii) Division of personnel:

Military	0
Civilian	2

(iii) Division of personnel by category:

Scientists	2
Engineers	0
Technicians	0
Administrative and support staff	0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Bacteriology, serology

(v) Are contractor staff working in the facility? If so, provide an approximate number.

0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Canton of Ticino

(vii) What are the funding levels for the following programme areas:

Research	0 %
Development	0 %
Test & Evaluation	40 %
Analysis / Diagnosis	40 %
Education & Training	0 %
Other activities	20 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

List of publicly available papers and reports published in 2011:

Rezzonico F, Stockwell VO, Tonolla M, Duffy B, Smits THM. Pantoea clinical isolates cannot be accurately assigned to species based on metabolic profiling. Transpl Infect Dis 2011: 1-2.

Schüpbach J, Bisset LR, Regenass S, Bürgisser P, Gorgievski M, Steffen I, Andreutti C, Martinetti G, Shah C, Yerly S, Klimkait T, Gebhardt M, Schöni-Affolter F, Rickenbach M. High specificity of line-immunoassay based algorithms for recent HIV-1 infection independent of viral subtype and stage of disease. BMC Infectious Diseases 2011, 11:254.

Schubert CJ, Vazquez F, Lösekann-Behrens, Knittel K, Tonolla M, Boetius Antje. Evidence for anaerobic oxidation of methane in sediments of a freshwater system (Lago di Cadagno). FEMS Microbiol Ecol (2011) 1-13.

Stephan R, Cernela N, Ziegler D, Pflüger V, Tonolla M, Ravasi D, Fredriksson-Ahomaa M, Hächler H. Rapid species specific identification and subtyping of Yersinia enterocolitica by MALDI-TOF Mass spectrometry. Journal of Microbiological Methods (2011), doi: 10.1016/j.mimet.2011.08.016.

Gandolfi-Decristophoris P, De Benedetti A, Petignat C, Attinger M, Guillaume J, Fiebig L, Hattendorf J, Cernela N, Regula G, Petrini O, Zinsstag J and Schelling. Evaluation of pet contact as a risk factor for carriage of multidrug-resistant staphylococci in nursing home residents. American Journal of Infection Control (2011), doi:10.1016/j.ajic.2011.04.007.

Roger S, Cernela N, Ziegler D, Pflüger V, Tonolla M, Ravasi D, Fredriksson-Ahomaa M, Hächler H. Rapid species specific identification and subtyping of Yersinia enterocolitica by MALDI-TOF Mass spectrometry. Journal of Microbiological Methods (2011), doi: 10.1016/j.mimet.2011.08.016.

Schubert CJ, Vazquez F, Lösekann-Behrens, Knittel K, Tonolla M, Boetius Antje. Evidence for anaerobic oxidation of methane in sediments of a freshwater system (Lago di Cadagno). FEMS Microbiol Ecol (2011) 1-13.

Guidi V, Patocchi N, Lüthy P, Tonolla M. Distribution of Bacillus thuringensis subsp. israelensis in Soil of a Swiss Wetland reserve after 22 years of Mosquito Control. Applied and Environmental Microbiology (2011) vol. 77 (1): 3663-3668.

Decristophoris P, De Benedetti A , Marvin G , Guillaume J , Petignat C , Attinger M, Petrini O. Epidemiologia degli stafilococchi multiresistenti agli antibiotici nei gatti, nei cani e nei residenti di istituti di lunga degenza in Svizzera. Rapporto di studio 2011.

Pertel T. et al. TRIM5 is an innate immune sensor for the retrovirus capsid lattice. Nature 2011 vol. 472 (7343) pp. 361-36.

Decristophoris P, Fasola A, Benagli C, Tonolla M, Petrini O. Identification of Staphylococcus intermedius Group by MALDI-TOF MS. Systematic and Applied Microbiology 2011 34: 45-51.

Benagli C, Rossi V, Dolina M, Tonolla M, Petrini O. Matrix-assisted laser desorption ionization-time of flight mass spectrometry for the identification of clinically relevant bacteria .PLoS One. 2011 Jan 25;6(1):e16424.

Gaia V, Casati S, Tonolla M. Rapid identification of Legionella spp. by MALDI-TOF MS based protein mass fingerprinting. Syst Appl Microbiol. 2011; 34: 40-44.

Schubert CJ, Vazquez F, Lösekann-Behrens T, Knittel K, Tonolla M, Boetius A. a freshwater system Evidence for anaerobic oxidation of methane in sediments of (Lago di Cadagno). FEMS Microbiol Ecol. 2011 Jan 11.

Hahn D, Mirza B, Benagli C, Vogel G, Tonolla M. Typing of nitrogen-fixing Frankia strains by matrix-assisted laser desorption ionization-time-of-flight (MALDI-TOF) mass spectrometry. Syst Appl Microbiol. 2011; 34:63-68.

Haller L, Tonolla M, Zopfi J, Peduzzi R, Wildi W, Poté J. Composition of bacterial and archaeal communities in freshwater sediments with different contamination levels (Lake Geneva, Switzerland). Water Res. 2011 Jan;45(3):1213-28.

Habicht KS, Miller M, Cox RP, Frigaard NU, Tonolla M, Peduzzi S, Falkenby LG, Andersen JS. Comparative proteomics and activity of a green sulfur bacterium through the water column of Lake Cadagno, Switzerland. Environ Microbiol. 2011; 13(1):203-15.

Lee JV, Lai S, Exner M, Lenz J, Gaia V, Casati S, Hartemann P, Lück C, Pangon B, Ricci ML, Scaturro M, Fontana S, Sabria M, Sánchez I, Assaf S, Surman-Lee S. An international trial of quantitative PCR for monitoring for Legionella in artificial water systems. J Appl Microbiol. 2011 Jan 29.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Cantonal Institute of Microbiology is the Regional Competence Center for the primary analysis of samples suspicious of a bioterror-related background.

For further information please visit (website in Italian):
http://www.ti.ch/DSS/DSP/IstCM/

[9] Including viruses and prions.

Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins

At the Third Review Conference it was agreed that States Parties continue to implement the following:

Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins, and on all such events that seem to deviate from the normal pattern as regards type, development, place, or time of occurrence. The information provided on events that deviate from the norm will include, as soon as it is available, data on the type of disease, approximate area affected, and number of cases.

The Seventh Review Conference agreed the following:

No universal standards exist for what might constitute a deviation from the normal pattern.

Modalities

The Third Review Conference agreed on the following, later amended by the Seventh Review Conference:

1. Exchange of data on outbreaks that seem to deviate from the normal pattern is considered particularly important in the following cases:

- *When the cause of the outbreak cannot be readily determined or the causative agent[10] is difficult to diagnose,*
- *When the disease may be caused by organisms which meet the criteria for risk groups III or IV, according to the classification in the latest edition of the WHO Laboratory Biosafety Manual,*
- *When the causative agent is exotic to a given geographical region,*
- *When the disease follows an unusual pattern of development,*
- *When the disease occurs in the vicinity of research centres and laboratories subject to exchange of data under item A,*
- *When suspicions arise of the possible occurrence of a new disease.*

[10] It is understood that this may include organisms made pathogenic by molecular biology techniques, such as genetic engineering.

2. In order to enhance confidence, an initial report of an outbreak of an infectious disease or a similar occurrence that seems to deviate from the normal pattern should be given promptly after cognizance of the outbreak and should be followed up by annual reports. To enable States Parties to follow a standardized procedure, the Conference has agreed that Form B should be used, to the extent information is known and/or applicable, for the exchange of annual information.

3. The declaration of electronic links to national websites or to websites of international, regional or other organizations which provide information on disease outbreaks (notably outbreaks of infectious diseases and similar occurrences caused by toxins that seem to deviate from the normal pattern) may also satisfy the declaration requirement under Form B.

4. In order to improve international cooperation in the field of peaceful bacteriological (biological) activities and in order to prevent or reduce the occurrence of ambiguities, doubts and suspicions, States Parties are encouraged to invite experts from other States Parties to assist in the handling of an outbreak, and to respond favourably to such invitations, respecting applicable national legislation and relevant international instruments.

Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins

Human diseases
The Swiss Federal Office of Public Health (FOPH) is responsible for the surveillance and reporting of human diseases. A nationwide notification system is regulated by the Ordinance on the Notification of Communicable Human Diseases (*RS 818.141.1 Ordonnance du 13 janvier 1999 sur la déclaration des maladies transmissibles de l'homme*), which is based on the Federal Law on the Control of Communicable Human Diseases (*RS 818.101 Loi fédérale du 18 décembre 1970 sur la lute contre les maladies transmissibles de l'homme*). On the basis of this ordinance and the Ordinance on the Declaration by Practitioners and Laboratories (*RS 818.141.11 Ordonnance du 13 janvier 1999 sur les déclarations de médecin et de laboratoire*) every medical practitioner and laboratory is obliged to report the occurrence or identification of certain notifiable diseases. The results of this survey are published in the weekly *Bulletin de l'office federal de la santé publique*. The Bulletin (http://www.admin.ch/bag/infreporting/bulletin.html), which also contains detailed reports on the epidemiological situation in the country, is transmitted to the World Health Organization (WHO).

Animal diseases
The Swiss Federal Veterinary Office (FVO) is responsible for the surveillance and reporting of animal diseases. According to the Federal Law on Animal Epidemics (*RS 916.40 Loi du 1er juillet 1966 sur les épizooties*) and the corresponding ordinance (*RS 916.401 Ordonnance du 27 juin 1995 sur les épizooties*), notifiable animal diseases have to be reported to the FVO, which in turn is responsible for the reporting to the World Organization for Animal Health (OIE). Epidemiological data are published in the weekly *Bulletin de l'office vétérinaire fédéral* (http://www.infosm.bvet.admin.ch/public/bulletin/aktuell).

Plant diseases and pests
The Swiss Federal Plant Protection Service (FPPS) is responsible for any kind of phytosanitary measures in order to prevent the introduction and spread of particularly harmful pests and diseases that affect plants and plant products. The FPPS is run jointly by the Swiss Federal Office for Agriculture (FOAG) and the Swiss Federal Office for the Environment (FOEN). The FOAG is responsible for the sector of agricultural and horticultural crops, whereas the FOEN is responsible for forest plants, wood and wood products, including invasive plants. According to the Federal Law on Agriculture (*RS 910.1 Loi fédérale du 29 avril 1998 sur l'agriculture*) and the corresponding ordinance (*RS 916.20 Ordonnance du 27 octobre 2010 sur la protection des végétaux*), notifiable plant diseases and pests are reported to either the FOAG or the FOEN that transmit reports to the European and Mediterranean Plant Protection Organization (EPPO). Reporting of invasive plants to the FOEN, which then communicates with the EPPO, is primarily regulated in the Ordinance on the Release of Organisms into the Environment (*RS 814.911 Ordonnance du 10 septembre 2008 sur l'utilisation d'organismes dans l'environnement*).

Information on outbreaks of infectious diseases and similar occurrences that seem to deviate from the normal pattern[11]

Human diseases

No outbreaks of infectious diseases or similar occurrences that seemed to deviate from the normal pattern in terms of human diseases were observed during the reporting period.

[11] See paragraph 2 of the chapeau to Confidence-Building Measure B.

Information on outbreaks of infectious diseases and similar occurrences that seem to deviate from the normal pattern[11]

Animal diseases

Information on outbreaks of infectious diseases and similar occurrences that seem to deviate from the normal pattern in terms of animal diseases that occurred during the reporting period is provided as follows:

1. Two individual cases of bovine spongiform encephalopathy (BSE) in cattle with a novel variant of prion protein that has not been described previously. Cases have been notified to the World Organization for Animal Health (OIE) and have been published in Emerging Infectious Diseases (EID) as follows:

   OIE: http://web.oie.int/wahis/public.php?page=single_report&pop=1&reportid=10546
   OIE: http://web.oie.int/wahis/public.php?page=single_report&pop=1&reportid=10628
   EID: http://wwwnc.cdc.gov/eid/article/18/1/11-1225_article.htm

2. One outbreak of Newcastle disease in a flock of layers. Outbreak has been notified to the World Organization for Animal Health (OIE) as follows:

   OIE: http://web.oie.int/wahis/public.php?page=single_report&pop=1&reportid=11355

[11] See paragraph 2 of the chapeau to Confidence-Building Measure B.

Information on outbreaks of infectious diseases and similar occurrences that seem to deviate from the normal pattern[11]

Plant diseases and pests

Information on outbreaks of infectious diseases and similar occurrences that seem to deviate from the normal pattern in terms of plant diseases and pests that occurred during the reporting period is provided as follows:

1. First record of *Pseudomonas syringae* pv. *actinidae* in Switzerland in a kiwifruit orchard has been notified to the European and Mediterranean Plant Protection Organization (EPPO) as follows:

   EPPO: http://archives.eppo.org/EPPOReporting/2011/Rse-1108.pdf, entry 2011/168

2. First record of *Drosophila suzukii* in Switzerland has been notified to the European and Mediterranean Plant Protection Organization (EPPO) as follows:

   EPPO: http://archives.eppo.org/EPPOReporting/2011/Rse-1108.pdf, entry 2011/172

3. First record of *Anoplophora glabripennis* in Switzerland has been notified to the European and Mediterranean Plant Protection Organization (EPPO) as follows:

   EPPO: http://archives.eppo.org/EPPOReporting/2011/Rse-1109.pdf, entry 2011/189

[11] See paragraph 2 of the chapeau to Confidence-Building Measure B.

Encouragement of publication of results and promotion of use of knowledge

At the Third Review Conference it was agreed that States parties continue to implement the following:

Encouragement of publication of results of biological research directly related to the Convention, in scientific journals generally available to States parties, as well as promotion of use for permitted purposes of knowledge gained in this research.

Modalities

The Third Review Conference agreed on the following:

1. It is recommended that basic research in biosciences, and particularly that directly related to the Convention should generally be unclassified and that applied research to the extent possible, without infringing on national and commercial interests, should also be unclassified.

2. States parties are encouraged to provide information on their policy as regards publication of results of biological research, indicating, inter alia, their policies as regards publication of results of research carried out in research centres and laboratories subject to exchange of information under item A and publication of research on outbreaks of diseases covered by item B, and to provide information on relevant scientific journals and other relevant scientific publications generally available to States parties.

3. The Third Review Conference discussed the question of cooperation and assistance as regards the safe handling of biological material covered by the Convention. It concluded that other international forums were engaged in this field and expressed its support for efforts aimed at enhancing such cooperation.

Encouragement of publication of results and promotion of use of knowledge

Switzerland does not impose any restrictions on the publication of basic and applied research in biosciences related to the Convention:

CBM "A": No restrictions implemented on the publication of research carried out within the frameworks of the National Biological Defense Program and the Regional Laboratory Network as well as their contractors.

CBM "B": No restrictions implemented on the publication of research. Full cooperation with international organizations (WHO, OIE, EPPO) in their respective frameworks.

CBM "G": Public institutions (universities, institutes, hospitals, state-run facilities): No restrictions implemented on the publication of research.

Private companies: Publication of research is encouraged, however, companies are responsible for their own publication policy that are in line with the protection of any commercial interests.

Publishers of scientific and medical journals and other publications based in Switzerland:

Birkhäuser Verlag AG, Basel	http://www.springer.com/birkhauser
EMH Schweizerischer Ärzteverlag AG, Muttenz	http://www.emh.ch/
S. Karger AG, Basel	http://www.karger.com/
WHO Press, Genève	http://apps.who.int/bookorders

Declaration of legislation, regulations and other measures

At the Third Review Conference the States parties agreed to implement the following, later amended by the Seventh Review Conference:

As an indication of the measures which they have taken to implement the Convention, States parties shall declare whether they have legislation, regulations or other measures:

(a) To prohibit and prevent the development, production, stockpiling, acquisition or retention of the agents, toxins, weapons, equipment and means of delivery specified in Article I of the Convention, within their territory or anywhere under their jurisdiction or under their control anywhere;

(b) In relation to the export or import of micro-organisms pathogenic to man, animals and plants or of toxins in accordance with the Convention;

(c) In relation to biosafety and biosecurity.

States parties shall complete the attached form (Form E) and shall be prepared to submit copies of the legislation or regulations, or written details of other measures on request to the Implementation Support Unit (ISU) within the United Nations Office for Disarmament Affairs or to an individual State party. On an annual basis States parties shall indicate, also on the attached form, whether or not there has been any amendment to their legislation, regulations or other measures.

Declaration of legislation, regulations and other measures

Switzerland adheres to a monistic system, i.e. treaties of international law become effective upon ratification and are part of the Swiss Federal Legislation. This fact is reflected as follows:

Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (*RS 0.515.07 Convention du 10 avril 1972 sur l'interdiction de la mise au point, de la fabrication et du stockage des armes bactériologiques (biologiques) ou à toxines et sur leur destruction*)
http://www.admin.ch/ch/f/rs/i5/0.515.07.fr.pdf

Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (*RS 0.515.105 Protocole du 17 juin 1925 concernant la prohibition d'emploi à la guerre de gaz asphyxiants, toxiques ou similaires et de moyens bactériologiques*)
http://www.admin.ch/ch/f/rs/i5/0.515.105.fr.pdf

Declaration of legislation, regulations and other measures

The current status of the further implementation of the Convention into the Swiss Federal Legislation as well as by other measures is as follows:

Relating to	Legislation	Regulations	Other measures[12]	Amended since last year
a) Development, production, stockpiling, acquisition or retention of microbial or other biological agents, or toxins, weapons, equipment and means of delivery specified in Article I	Yes[a]	Yes[b]	Yes	Yes
b) Exports of micro-organisms[13] and toxins	Yes[c]	Yes[d]	Yes	Yes
c) Imports of micro-organisms[13] and toxins	Yes[e]	Yes[f]	Yes	Yes
d) Biosafety[14] and biosecurity[15]	Yes[g]	Yes[h]	Yes	Yes

[12] Including guidelines.
[13] Micro-organisms pathogenic to man, animals and plants in accordance with the Convention.
[14] In accordance with the latest version of the WHO Laboratory Biosafety Manual or equivalent national or international guidance.
[15] In accordance with the latest version of the WHO Laboratory Biosecurity Guidance or equivalent national or international guidance.

Declaration of legislation, regulations and other measures

Legislation and regulations concerned with the implementation of the Convention in Switzerland is detailed as follows:

[a,g] Federal Constitution of the Swiss Confederation (*RS 101 Constitution fédérale de la Confédération suisse du 18 avril 1999*)
http://www.admin.ch/ch/f/rs/1/101.fr.pdf

[a] Federal Act on Measures Ensuring Homeland Security (*RS 120 Loi fédérale du 21 mars 1997 instituant des mesures visant au maintien de la sûreté intérieure*)
http://www.admin.ch/ch/f/rs/1/120.fr.pdf

[b] Ordinance on the Intelligence Service of the Confederation (*RS 121.1 Ordonnance du 4 décembre 2009 sur le Service de renseignement de la Confédération*)
http://www.admin.ch/ch/f/rs/1/121.1.fr.pdf

[b] Ordinance on Information Systems of the Intelligence Service of the Confederation (*RS 121.2 Ordonnance du 4 décembre 2009 sur les systèmes d'information du Service de renseignement de la Confédération*)
http://www.admin.ch/ch/f/rs/1/121.2.fr.pdf

[b,h] Ordinance on the Federal Expert Commission for Biosafety (*RS 172.327.8 Ordonnance du 20 novembre 1996 sur la Commission fédérale d'experts pour la sécurité biologique*)
http://www.admin.ch/ch/f/rs/1/172.327.8.fr.pdf

[a] Swiss Criminal Code (*RS 311.0 Code pénal suisse du 21 décembre 1937*)
http://www.admin.ch/ch/f/rs/3/311.0.fr.pdf

[a] Swiss Code of Criminal Procedure (*RS 312.0 Code de procédure pénale suisse du 5 octobre 2007*)
http://www.admin.ch/ch/f/rs/3/312.0.fr.pdf

[b] Ordinance on the Communication of Penal Decisions Taken by Cantonal Authorities (*RS 312.3 Ordonnance du 10 novembre 2004 réglant la communication des décisions pénales prises par les autorités cantonales*)
http://www.admin.ch/ch/f/rs/3/312.3.fr.pdf

[a] Military Criminal Code (*RS 321.0 Code pénal militaire du 13 juin 1927*)
http://www.admin.ch/ch/f/rs/3/321.0.fr.pdf

[a] Federal Act on International Legal Aid in Criminal Cases (*RS 351.1 Loi fédérale du 20 mars 1981 sur l'entraide internationale en matière pénale*)
http://www.admin.ch/ch/f/rs/3/351.1.fr.pdf

[b] Ordinance on the National Central Bureau Interpol Bern (*RS 351.21 Ordonnance du 1er décembre 1986 concernant le Bureau central national Interpol Bern*)
http://www.admin.ch/ch/f/rs/3/351.21.fr.pdf

[a] Federal Act on Main Offices of Criminal Investigation Departments of the Confederation (*RS 360 Loi fédérale du 7 octobre 1994 sur les Offices centraux de police criminelle de la Confédération*)
http://www.admin.ch/ch/f/rs/3/360.fr.pdf

[b] Ordinance on the Information System of the Federal Criminal Police (*RS 360.2 Ordonnance du 15 octobre 2008 sur le système informatisé de la Police judiciaire fédérale*)
http://www.admin.ch/ch/f/rs/3/360.2.fr.pdf

[b] Ordinance on the Coordinated Medical Service (*RS 501.31 Ordonnance du 27 avril 2005 sur le Service sanitaire coordonné*)
http://www.admin.ch/ch/f/rs/5/501.31.fr.pdf

[b] Ordinance on the Coordination of the Veterinary Service in line with General Defence (*RS 501.7 Ordonnance du 3 mai 1978 sur la coordination du service vétérinaire dans le domaine de la défense générale*)
http://www.admin.ch/ch/f/rs/5/501.7.fr.pdf

[a] Federal Act on the Army and the Military Administration (*RS 510.10 Loi fédérale du 3 février 1995 sur l'armée et l'administration militaire*)
http://www.admin.ch/ch/f/rs/5/510.10.fr.pdf

[b] Ordinance on Measures Taken by the Army against Human and Animal Epidemics (*RS 510.35 Ordonnance du 25 octobre 1955 concernant les mesures à prendre par l'armée contre les épidémies et épizooties*)
http://www.admin.ch/ch/f/rs/5/510.35.fr.pdf

[b] Ordinance on Domestic Disaster Management by the Army (*RS 513.75 Ordonnance du 29 octobre 2003 sur l'aide militaire en cas de catastrophe dans le pays*)
http://www.admin.ch/ch/f/rs/5/513.75.fr.pdf

[a] Federal Act on War Material (*RS 514.51 Loi fédérale du 13 décembre 1996 sur le materiel de guerre*)
http://www.admin.ch/ch/f/rs/5/514.51.fr.pdf

[b,d,f] Ordinance on War Material (*RS 514.511 Ordonnance du 25 février 1998 sur le matériel de guerre*)
http://www.admin.ch/ch/f/rs/5/514.511.fr.pdf

[a] Federal Act on the Protection of the Population and Civil Protection (*RS 520.1 Loi fédérale du 4 octobre 2002 sur la protection de la population et sur la protection civile*)
http://www.admin.ch/ch/f/rs/5/520.1.fr.pdf

[b] Ordinance on the Organization of Deployments in case of NBC Incidents and Natural Incidents (*RS 520.17 Ordonnance du 20 octobre 2010 sur l'organisation des interventions en cas d'événement ABC et d'événement naturel*)
http://www.admin.ch/ch/f/rs/5/520.17.fr.pdf

[b] Ordinance on the National Emergency Operations Centre (*RS 520.18 Ordonnance du 17 octobre 2007 sur la Centrale nationale d'alarme*)
http://www.admin.ch/ch/f/rs/5/520.18.fr.pdf

[a] Federal Act on Customs (*RS 631.0 Loi du 18 mars 2005 sur les douanes*)
http://www.admin.ch/ch/f/rs/6/631.0.fr.pdf

[b,d,f] Ordinance on Customs (*RS 631.01 Ordonnance du 1er novembre 2006 sur les douanes*)
http://www.admin.ch/ch/f/rs/6/631.01.fr.pdf

[b] Ordinance on Competencies of the Federal Customs Administration in Criminal Matters (*RS 631.09 Ordonnance du 4 avril 2007 réglant les compétences de l'Administration fédérale des douanes en matière pénale*)
http://www.admin.ch/ch/f/rs/6/631.09.fr.pdf

[b,h] Ordinance on the Transportation of Hazardous Goods on the Road (*RS 741.621 Ordonnance du 29 novembre 2002 relative au transport des marchandises dangereuses par route*)
http://www.admin.ch/ch/f/rs/7/741.621.fr.pdf

[b,h] Ordinance on Hazardous Goods Representatives for the Transportation of Hazardous Goods on the Road, by Air or by Sea (*RS 741.622 Ordonnance du 15 juin 2001 sur les conseillers à la sécurité pour le transport de marchandises dangereuses par route, par rail ou par voie navigable*)
http://www.admin.ch/ch/f/rs/7/741.622.fr.pdf

[b,h] Ordinance on the Transportation of Hazardous Goods by Railway and Aerial Railway (*RS 742.401.6 Ordonnance du DETEC du 3 décembre 1996 relative au transport des marchandises dangereuses par chemin de fer et par installation à cables*)
http://www.admin.ch/ch/f/rs/7/742.401.6.fr.pdf

[a] Federal Act on Surveillance of Postal Mail and Telecommunications (*RS 780.1 Loi fédérale du 6 octobre 2000 sur la surveillance de la correspondance par poste et télécommunication*)
http://www.admin.ch/ch/f/rs/7/780.1.fr.pdf

[b] Ordinance on Surveillance of Postal Mail and Telecommunications (*RS 780.11 Ordonnance du 31 octobre 2001 sur la surveillance de la correspondance par poste et télécommunication*)
http://www.admin.ch/ch/f/rs/7/780.11.fr.pdf

[b,h] Ordinance on the Transplantation of Organs, Tissues and Cells of Animal Origin (*RS 810.213 Ordonnance du 16 mars 2007 sur la transplantation d'organes, de tissus et de cellules d'origine animale*)
http://www.admin.ch/ch/f/rs/8/810.213.fr.pdf

[b,f,h] Ordinance on Pharmaceuticals (*RS 812.212.21 Ordonnance du 17 octobre 2001 sur les médicaments*)
http://www.admin.ch/ch/f/rs/8/812.212.21.fr.pdf

[b,h] Ordinance on Clinical Trials with Therapeutic Products (*RS 812.214.2 Ordonnance du 17 octobre 2001 sur les essais cliniques de produits thérapeutiques*)
http://www.admin.ch/ch/f/rs/8/812.214.2.fr.pdf

[a,g] Federal Act on the Protection against Dangerous Substances and Preparations (*RS 813.1 Loi fédérale du 15 décembre 2000 sur la protection contre les substances et les préparations dangereuses*)
http://www.admin.ch/ch/f/rs/8/813.1.fr.pdf

[b,h] Ordinance on Good Laboratory Practice (*RS 813.112.1 Ordonnance du 18 mai 2005 sur les bonnes pratiques de laboratoire*)
http://www.admin.ch/ch/f/rs/8/813.112.1.fr.pdf

[b,f,h] Ordinance on Marketing and Handling Biocidal Products (*RS 813.12 Ordonnance du 18 mai 2005 concernant la mise sur le marché et l'utilisation des produits biocides*)
http://www.admin.ch/ch/f/rs/8/813.12.fr.pdf

[a,g] Federal Act on the Protection of the Environment (*RS 814.01 Loi fédérale du 7 octobre 1983 sur la protection de l'environnement*)
http://www.admin.ch/ch/f/rs/8/814.01.fr.pdf

[b,d,f,h] Ordinance on the Protection against Major Accidents (*RS 814.012 Ordonnance du 27 février 1991 sur la protection contre les accidents majeurs*)
http://www.admin.ch/ch/f/rs/8/814.012.fr.pdf

[b,h] Ordinance on Waste Management (*RS 814.600 Ordonnance du 10 décembre 1990 sur le traitement des déchets*)
http://www.admin.ch/ch/f/rs/8/814.600.fr.pdf

[a,g] Federal Act on non-Human Genetic Engineering (*RS 814.91 Loi fédérale du 21 mars 2003 sur l'application du génie génétique au domaine non humain*)
http://www.admin.ch/ch/f/rs/8/814.91.fr.pdf

[b,h] Ordinance on the Release of Organisms into the Environment (*RS 814.911 Ordonnance du 10 septembre 2008 sur l'utilisation d'organismes dans l'environnement*)
http://www.admin.ch/ch/f/rs/8/814.911.fr.pdf

[b,h] Ordinance on the Contained Use of Organisms (*Ordonnance du 25 août 1999 sur l'utilisation des organismes en milieu confiné*)
http://www.admin.ch/ch/f/rs/8/814.912.fr.pdf

[b,h] Ordinance on Transborder Traffic of Genetically Modified Organisms (*RS 814.912.21 Ordonnance du 3 novembre 2004 sur les mouvements transfrontières des organismes génétiquement modifiés*)
http://www.admin.ch/ch/f/rs/8/814.912.21.fr.pdf

[a] Federal Act on Foods and Commodities (*RS 817.0 Loi fédérale du 9 octobre 1992 sur les denrées alimentaires et les objets usuels*)
http://www.admin.ch/ch/f/rs/8/817.0.fr.pdf

[b,h] Ordinance on Foods and Commodities (*RS 817.02 Ordonnance du 23 novembre 2005 sur les denrées alimentaires et les objets usuels*)
http://www.admin.ch/ch/f/rs/8/817.02.fr.pdf

[b] Ordinance on Impurities and Ingredients in Foods (*RS 817.021.23 Ordonnance du DFI du 26 juin 1995 sur les substances étrangères et les composants dans les denrées alimentaires*)
http://www.admin.ch/ch/f/rs/8/817.021.23.fr.pdf

[b,h] Ordinance on Genetically Modified Foods (*RS 817.022.51 Ordonnance du DFI du 23 novembre 2005 sur les denrées alimentaires génétiquement modifiées*)
http://www.admin.ch/ch/f/rs/8/817.022.51.fr.pdf

[b,h] Ordinance on Hygiene (*RS 817.024.1 Ordonnance du DFI du 23 novembre 2005 sur l'hygiène*)
http://www.admin.ch/ch/f/rs/8/817.024.1.fr.pdf

[b,h] Ordinance on the Enforcement of the Legislation on Foods (*RS 817.025.21 Ordonnance du DFI du 23 novembre 2005 sur l'exécution de la législation sur les denrées alimentaires*)
http://www.admin.ch/ch/f/rs/8/817.025.21.fr.pdf

[b,h] Ordinance on Animal Slaughter and Meat Control (*RS 817.190 Ordonnance du 23 novembre 2005 concernant l'abattage d'animaux et le contrôle des viandes*)
http://www.admin.ch/ch/f/rs/8/817.190.fr.pdf

[b,h] Ordinance on Animal Slaughter Hygiene (*RS 817.190.1 Ordonnance du DFE du 23 novembre 2005 concernant l'hygiène lors de l'abattage d'animaux*)
http://www.admin.ch/ch/f/rs/8/817.190.1.fr.pdf

[a,c,e,g] Federal Act on the Control of Communicable Human Diseases (*RS 818.101 Loi fédérale du 18 décembre 1970 sur la lutte contre les maladies transmissibles de l'homme*)
http://www.admin.ch/ch/f/rs/8/818.101.fr.pdf

[b,h] Ordinance on Microbiological and Serological Laboratories (*RS 818.123.1 Ordonnance du 26 juin 1996 sur les laboratoires de microbiologie et de sérologie*)
http://www.admin.ch/ch/f/rs/8/818.123.1.fr.pdf

[d,f] Ordinance on the Border Medical Service (*RS 818.125.1 Ordonnance du 17 juin 1974 sur le Service sanitaire de frontière*)
http://www.admin.ch/ch/f/rs/8/818.125.1.fr.pdf

[f] Ordinance on Measures Taken by the Border Medical Service (*RS 818.125.11 Ordonnance du DFI du 9 décembre 2005 sur les mesures à prendre par le Service sanitaire de frontière*)
http://www.admin.ch/ch/f/rs/8/818.125.11.fr.pdf

[f] Ordinance on Preventing the Introduction of New Emerging Infectious Diseases (*RS 818.125.12 Ordonnance du DFI du 15 décembre 2003 sur la prévention de l'introduction de nouvelles maladies infectieuses émergentes*)
http://www.admin.ch/ch/f/rs/8/818.125.12.fr.pdf

[b,h] Ordinance on the Notification of Communicable Human Diseases (*RS 818.141.1 Ordonnance du 13 janvier 1999 sur la déclaration des maladies transmissibles de l'homme*)
http://www.admin.ch/ch/f/rs/8/818.141.1.fr.pdf

[b,h] Ordinance on Declarations by Practitioners and Laboratories (*RS 818.141.11 Ordonnance du 13 janvier 1999 sur les déclarations de médecin et de laboratoire*)
http://www.admin.ch/ch/f/rs/8/818.141.11.fr.pdf

[d,f] Ordinance on the Transportation and Sepulture of Contagious Cadavers and the Transportation of Cadavers to or from Abroad (*RS 818.61 Ordonnance du 17 juin 1974 sur le transport et la sépulture de cadavres présentant un danger de contagion ainsi que le transport de cadavres en provenance ou à destination de l'étranger*)
http://www.admin.ch/ch/f/rs/8/818.61.fr.pdf

[b,h] Ordinance Relating to the Act of Labour (*RS 822.114 Ordonnance 4 du 18 août 1993 relative à la loi sur le travail*)
http://www.admin.ch/ch/f/rs/8/822.114.fr.pdf

[b,h] Ordinance on the Protection of Workforce against Microbiological Risks (*Ordonnance du 25 août 1999 sur la protection des travailleurs contre les risques liés aux micro-organismes*)
http://www.admin.ch/ch/f/rs/8/832.321.fr.pdf

[a,c,e,g] Federal Act on Agriculture (*RS 910.1 Loi fédérale du 29 avril 1998 sur l'agriculture*)
http://www.admin.ch/ch/f/rs/9/910.1.fr.pdf

[b] Ordinance on the Coordination of Controls on Agricultural Farms (*RS 910.15 Ordonnance du 26 octobre 2011 sur la coordination des contrôles dans les exploitations agricoles*)
http://www.admin.ch/ch/f/rs/9/910.15.fr.pdf

[b,h] Ordinance on Primary Production (*RS 916.020 Ordonnance du 23 novembre 2005 sur la production primaire*)
http://www.admin.ch/ch/f/rs/9/916.020.fr.pdf

[b,h] Ordinance on the Release of Phytopharmaceutical Products (*RS 916.161 Ordonnance du 12 mai 2010 sur la mise en circulation des produits phytosanitaires*)
http://www.admin.ch/ch/f/rs/9/916.161.fr.pdf

[b,f,h] Ordinance on Plant Protection (*RS 916.20 Ordonnance du 27 octobre 2010 sur la protection des végétaux*)
http://www.admin.ch/ch/f/rs/9/916.20.fr.pdf

[b] Ordinance on the Control of Milk (*RS 916.351.021.1 Ordonnance du 20 octobre 2010 sur le contrôle du lait*)
http://www.admin.ch/ch/f/rs/9/916.351.0.fr.pdf

[b,h] Ordinance on the Milk Production Hygiene (*RS 916.351.021.1 Ordonnance du DFE du 23 novembre 2005 réglant l'hygiène dans la production laitière*)
http://www.admin.ch/ch/f/rs/9/916.351.021.1.fr.pdf

[a,c,e,g] Federal Act on Animal Diseases (*RS 916.40 Loi du 1er juillet 1966 sur les épizooties*)
http://www.admin.ch/ch/f/rs/9/916.40.fr.pdf

[b,d,f,h] Ordinance on the Control of Animal Diseases (*RS 916.401 Ordonnance du 27 juin 1995 sur les épizooties*)
http://www.admin.ch/ch/f/rs/9/916.401.fr.pdf

[b,h] Ordinance on the Disposal of Animal Side Products (*RS 916.441.22 Ordonnance du 25 mai 2011 concernant l'élimination des sous-produits animaux*)
http://www.admin.ch/ch/f/rs/9/916.441.22.fr.pdf

[b,d,f] Ordinance on Import, Transit and Export of Animals and Animal Products (*RS 916.443.10 Ordonnance du 18 avril 2007 concernant l'importation, le transit et l'exportation d'animaux et de produits animaux*)
http://www.admin.ch/ch/f/rs/9/916.443.10.fr.pdf

[d,f] Ordinance on Import and Transit of Animals by Air from Abroad (*RS 916.443.12 Ordonnance du 18 avril 2007 concernant l'importation et le transit d'animaux par voie aérienne en provenance de pays tiers*)
http://www.admin.ch/ch/f/rs/9/916.443.12.fr.pdf

[d,f] Ordinance on Import and Transit of Animal Products by Air from Abroad (*RS 916.443.13 Ordonnance du 27 août 2008 concernant l'importation et le transit de produits animaux par voie aérienne en provenance de pays tiers*)
http://www.admin.ch/ch/f/rs/9/916.443.13.fr.pdf

[a,c,e,g] Federal Act on the Control of Goods Suitable for Civilian and Military Purposes and Specific Military Goods (*RS 946.202 Loi fédérale du 13 décembre 1996 sur le contrôle des biens utilisables à des fins civiles et militaires et des biens militaires spécifiques*)
http://www.admin.ch/ch/f/rs/9/946.202.fr.pdf

[b,d,f] Ordinance on the Export, Import and Transit of Goods Suitable for Civilian and Military Purposes and Specific Military Goods (*RS 946.202.1 Ordonnance du 25 juin 1997 sur l'exportation, l'importation et le transit des biens utilisables à des fins civiles et militaires et des biens militaires spécifiques*)
http://www.admin.ch/ch/f/rs/9/946.202.1.fr.pdf

[b,d,f] Ordinance on the Control of Chemicals Suitable for Civilian and Military Purposes (*RS 946.202.21 Ordonnance du 17 octobre 2007 sur le contrôle des produits chimiques utilisables à des fins civiles et militaires*)
http://www.admin.ch/ch/f/rs/9/946.202.21.fr.pdf

[b,d] Ordinance Establishing Measures against Persons and Entities Linked to Osama bin Laden, the al-Qaeda Group or the Taliban (*RS 946.203 Ordonnance du 2 octobre 2000 instituant des mesures à l'encontre de personnes et entités liées à Oussama ben Laden, au groupe «Al-Qaïda» ou aux Taliban*)
http://www.admin.ch/ch/f/rs/9/946.203.fr.pdf

[a,c] Federal Act on Sanctions on Trade with Foreign Countries (*RS 946.231 Loi fédérale du 22 mars 2002 sur l'application de sanctions internationales*)
http://www.admin.ch/ch/f/rs/9/946.231.fr.pdf

[b,d] Ordinance on Measures against the Democratic People's Republic of Korea (*RS 946.231.127.6 Ordonnance du 25 octobre 2006 instituant des mesures à l'encontre de la République populaire démocratique de Corée*)
http://www.admin.ch/ch/f/rs/9/946.231.127.6.fr.pdf

[b] Ordinance of the Swiss Financial Market Supervisory Authority on the Prevention of Money Laundering and Financing of Terrorism (*RS 955.033.0 Ordonnance de l'Autorité fédérale de surveillance des marchés financiers du 8 décembre 2010 sur la prévention du blanchiment d'argent et du financement du terrorisme*)
http://www.admin.ch/ch/f/rs/9/955.033.0.fr.pdf

[b] Ordinance on the Reporting Bureau in Matters of Money Laundering (*RS 955.23 Ordonnance du 25 août 2004 sur le Bureau de communication en matière de blanchiment d'argent*)
http://www.admin.ch/ch/f/rs/9/955.23.fr.pdf

Titles in English are inofficial translations that are provided for information purposes only and have no legal force. To access legal documents please consult the Swiss Federal Legislation in either French (links above), German or Italian. Some additional information may also be obtained in the framework of UNSCR 1540 at: http://www.un.org/sc/1540/legisdocuments.shtml

Declaration of past activities in offensive and/or defensive biological research and development programmes

In the interest of increasing transparency and openness, States parties shall declare whether or not they conducted any offensive and/or defensive biological research and development programmes since 1 January 1946.

If so, States parties shall provide information on such programmes, in accordance with Form F.

Declaration of past activities in offensive and/or defensive biological research and development programmes

1. *Date of entry into force of the Convention for the State Party*

4 May 1976

2. *Past offensive biological research and development programmes*

No

Period of activities

n/a

Summary of the research and development activities indicating whether work was performed concerning production, test and evaluation, weaponization, stockpiling of biological agents, the destruction programme of such agents and weapons, and other related research.

n/a

3. *Past defensive biological research and development programmes*

Yes

Period of activities

1997 to present

Summary of the research and development activities indicating whether or not work was conducted in the following areas: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination, and other related research, with location if possible.

Please refer to Form A, part 2 (ii) [➢ pages 13 to 24] as well as past CBM declarations.

Declaration of vaccine production facilities

To further increase the transparency of biological research and development related to the Convention and to broaden scientific and technical knowledge as agreed in Article X, each State party will declare all facilities, both governmental and non-governmental, within its territory or under its jurisdiction or control anywhere, producing vaccines licensed by the State party for the protection of humans. Information shall be provided on Form G attached.

Declaration of vaccine production facilities

Name of company / facility	**Crucell Switzerland AG**	
Location of production facility	Rehhagstrasse 79 CH-3018 Bern	/ Oberriedstrasse 68 / CH-3174 Thörishaus
Geographical location	N 46° 56' 06.79", E 7° 23' 09.50"	/ N 46° 53' 25.95", E 7° 21' 24.23"

Disease(s) targeted		**Name of vaccine**	**Trial phase**	**Licensed**	
1.	Hepatitis A	Epaxal / Epaxal Junior	☐	☒	AR, AT, BE, BR, CA, CH, CL, CN, CO, DE, DK, ES, FI, FR, GB, GR, GT, HK, IE, IL, IN, IT, KR, LU, MO, MX, MY, NL, NO, PE, PH, PK, PT, RU, SE, SG, TH, TN, TR, UA, VN, ZA
2.	Influenza (seasonal)	Inflexal V	☐	☒	AR, AT, BE, BG, BR, CH, CL, CN, CO, CU, CZ, DE, DK, ES, FI, GB, HK, HU, IE, IT, KR, LU, MX, MY, NL, NO, PA, PE, PH, PL, PT, RO, RU, SE, SG, UA, VN

Disease(s) targeted (continued)	Name of vaccine	Trial phase		Licensed	
3. Meningitis C	*Meningitec (Pfizer)*	☐		☒	*Licensed by Pfizer*
4. Tuberculosis	-	☒ II	KE, ZA	☐	
5. Typhoid fever	Vivotif	☐		☒	AR, AT, AU, BD, BE, CA, CH, CL, CO, DE, DK, ES, FI, GB, HK, IT, KG, LU, MX, MY, NG, NL, NO, NZ, PH, PK, SE, SG, TR, US, VN

Note: Abbreviations are according to ISO 3166-1 *"Codes for the representation of names of countries and their subdivisions – Part 1: Country codes"*.

Declaration of vaccine production facilities

Name of company / facility	**Cytos Biotechnology AG**
Location of production facility	Wagistrasse 25 CH-8952 Schlieren
Geographical location	N 47° 23' 57.72", E 8° 27' 34.81"

Disease(s) targeted	Name of vaccine	Trial phase	Licensed
1. Allergic asthma	CYT003-QbG10	☒ II	☐

Note: Abbreviations are according to ISO 3166-1 *"Codes for the representation of names of countries and their subdivisions – Part 1: Country codes"*.

Declaration of vaccine production facilities

Name of company / facility	**Pevion Biotech Ltd.**
Location of production facility	Worblentalstrasse 32 CH-3063 Ittigen
Geographical location	N 46° 58' 37.72", E 7° 28' 23.22"

Disease(s) targeted	**Name of vaccine**	**Trial phase**	**Licensed**
1. Candidiasis	PEV7	☒ I CH	☐
2. HIV	*Production for Mymetics SA*	☒ I CH	☐

Note: Abbreviations are according to ISO 3166-1 *"Codes for the representation of names of countries and their subdivisions – Part 1: Country codes"*.