

## Revised forms for the submission of the Confidence-Building Measures

At the Third Review Conference it was agreed that all States Parties present the following declaration, later amended by the Seventh Review Conference:

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

<i>Measure</i>	<i>Nothing to declare</i>	<i>Nothing new to declare</i>	<i>Year of last declaration if nothing new to declare</i>
<b>A, part 1</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A, part 2 (i)</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2009
<b>A, part 2 (ii)</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A, part 2 (iii)</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>B</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>C</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2018
<b>E</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>F</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2001
<b>G</b>	<input type="checkbox"/>	<input type="checkbox"/>	

(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: Friday, April 15, 2022

State Party to the Convention: Switzerland

Date of ratification/accession to the Convention: Tuesday, May 4, 1976

#### National point of contact:

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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.

# Confidence-Building Measure "A"

## Part 1 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<sup>1</sup> Laboratory Biosafety Manual and/or OIE<sup>2</sup> 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).

### Form A, part 1 (i)

*Exchange of data on research centres and laboratories*<sup>3</sup>

1. Name(s) of facility<sup>4</sup>:

**Labor Spiez (Spiez Laboratory)**

*[Declared in accordance with Form A Part 2(iii)]*

2. Responsible public or private organization or company:

Federal Office for Civil Protection, Federal Department of Defence, Civil Protection and Sports

3. Location and postal address:

Labor Spiez, Bundesamt für Bevölkerungsschutz, Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport, Austrasse, CH-3700 Spiez, Switzerland

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence:

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

5. Number of maximum containment units<sup>5</sup> within the research centre and/or laboratory, with an indication of their respective size (SqM):

BL 2: 483 SqM

BL 3: 126 SqM

BL 4: 118 SqM

*Of note, the BSL4 unit is operational and holds a license as follows: "Development of methods to detect and analyze viral pathogens of risk group 4 (clinical samples, environmental samples, including samples suspect of bioterrorism origin) as well as evaluation of antiviral substances, neutralizing antibodies and decontamination solutions".*

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate:

Spiez Laboratory, which is part of the Federal Office for Civil Protection, is the Swiss Center of Expertise in NBC Protection. Its Biology Division 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 and identification of potential biological warfare and bioterror agents, 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.

Spiez Laboratory is also a National Reference Center mandated by the Swiss Federal Office of Public Health and a National Reference Laboratory mandated by the Swiss Federal Food Safety and Veterinary Office as follows:

- National Reference Center for Anthrax
  - *Bacillus anthracis* (anthrax)
  - *Francisella tularensis* (tularemia)
  - *Yersinia pestis* (plague)
  - *Brucella spp.* (brucellosis)
  - *Burkholderia pseudomallei* (melioidosis)
  - other bacterial pathogens according to requirements of the national coordination committee of the Regional Laboratory Network

In addition, Spiez Laboratory supports the National Reference Center for Emerging Viral Infections responsible for the detection of emerging and reemerging viruses of all biosafety levels, especially hemorrhagic fever viruses and variola virus.

Spiez Laboratory's Biology Division holds an accreditation by the Swiss Accreditation Service as "Testing laboratory for the detection of biological agents" (STS 0054) according to the international standard ISO/IEC 17025:2017.

For additional information please visit: <https://www.spiezlab.admin.ch/en/home.html>

1. Name(s) of facility <sup>4</sup>:

**Centre National de Référence pour les Infections Virales Emergentes (National Reference Center for Emerging Viral Infections)**

*[Declared in accordance with Form A Part 2(iii)]*

2. Responsible public or private organization or company:

Virology Laboratory, University Hospitals of Geneva

3. Location and postal address:

Centre National de Référence pour les Infections Virales Emergentes, Laboratoire de Virologie, Hôpitaux Universitaires de Genève, Rue Gabrielle Perret-Gentil 4, CH-1205 Genève, Switzerland

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence:

Swiss Confederation (Federal Department of Home Affairs)

5. Number of maximum containment units <sup>5</sup> within the research centre and/or laboratory, with an indication of their respective size (SqM):

BL 2: 29 SqM

BL 3: 39 SqM

BL 4: 36 SqM

*Of note, the BSL4 unit is operational and holds a license for diagnostic purposes only, as follows: "Detection of viruses in clinical samples by molecular and/or serological methods".*

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate:

The National Reference Center for Emerging Viral Diseases (CRIVE/NAVI) is a national reference laboratory by order of the Federal Office of Public Health. Its task is the detection of emerging and re-emerging viruses of all biosafety levels, especially hemorrhagic fever viruses and smallpox 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 Diseases is part of the Laboratory of Virology (LV) at the University Hospitals of Geneva. Since January 1st, 2018, the CRIVE acts also as WHO National Center for Measles and Rubella.

Since the beginning of 2020, the CRIVE has been performing about 200'000 SARS-CoV-2 screening PCR and many thousands serologies. Currently, the CRIVE also performs Sanger and NGS sequencing on SARS-CoV-2 genomes for identification of variants.

The LV performs the analysis of many viruses impacting the human health as done in most of the hospitals (HIV, Hepatitis, CMV, EBV, respiratory and enteric viruses, etc.). LV does most of the viral analysis needed by an university hospital.

LV also hosts the Swiss National Center for Influenza.

For further information please visit (website in French):

<https://www.hug-ge.ch/laboratoire-virologie>

1. Name(s) of facility<sup>4</sup>:

**Institut für Medizinische Virologie (Institute of Medical Virology)**

*[Declared in accordance with Form A Part 2(iii)]*

2. Responsible public or private organization or company:

Faculty of Medicine, University of Zurich

3. Location and postal address:

Institut für Medizinische Virologie, Medizinische Fakultät, Universität Zürich, Winterthurerstrasse 190, CH-8057 Zürich, Switzerland

4. Source(s) of financing of the reported activity, including indication if the 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

5. Number of maximum containment units<sup>5</sup> within the research centre and/or laboratory, with an indication of their respective size (SqM):

BL 3: 25 SqM

*Of note, the Institute of Medical Virology holds a BSL4 license for diagnostic purposes only, as follows:*

*“Inactivation or extraction of environmental samples or samples with potentially highly pathogenic viruses for diagnostic purposes”.*

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate:

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 diagnostics laboratory.

For further information please visit:  
<https://www.virology.uzh.ch/en.html>

1. Name(s) of facility<sup>4</sup>:

**Institut für Virologie und Immunologie (Institute of Virology and Immunology)**

*[Declared in accordance with Form A Part 2(iii)]*

2. Responsible public or private organization or company:

Federal Food Safety and Veterinary Office, Federal Department of Home Affairs

3. Location and postal address:

Institut für Virologie und Immunologie, Bundesamt für Lebensmittelsicherheit und Veterinärwesen,  
Eidgenössisches Departement des Innern, Sensemattstrasse 293, CH-3147 Mittelhäusern, Switzerland

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence:

Swiss Confederation (Federal Department of Home Affairs)

5. Number of maximum containment units<sup>5</sup> within the research centre and/or laboratory, with an indication of their respective size (SqM):

BL 2: 600 SqM

BL 3: 100 SqM

ABL 3 Ag: 10000 SqM

*Of note, ABL3Ag facilities have special features not comparable to standard BSL3 or BSL4 facilities. The shell is considered BSL4, whereas inside the containment area BSL1, BSL2 and BSL3 space is common standard. Personnel enters through a shower barrier and is provided with suitable laboratory clothing for BSL1, 2 and 3 inside the containment area. Personnel has to shower out when leaving the containment area and has to keep a 72h quarantine (no contact to cloven hoofed animals). The IVI fulfills the requirements of the EU Minimum Biorisk Management Standards for Laboratories Working with Foot-And-Mouth Disease Virus. Due to these special features of ABL3Ag facilities, the ABL3Ag area is not limited to laboratory units only, but also includes engineering floors such as effluent treatment plant or ventilation units and animal units, which are all located within the containment area. Therefore, all maintenance work has to 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. Licenses are as follows: “Study of African swine fever immunopathogenesis in domestic pigs”; “Quality controls of immuno-biological products for use in applications of veterinary medicine”; “Establishment of a cell-based rapid test to determine protection provided by vaccination against foot-and-mouth disease virus”; “Peste des petits ruminants virulence”.*

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate:

The Institute of Virology and Immunology (IVI), which is part of the Swiss Federal Food Safety and Veterinary Office, is the ISO 17025 accredited institute for the diagnosis, surveillance and control of highly contagious epizootics. As such the IVI is the national reference laboratory for >25 pathogens. 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, African swine fever virus and new emergent viruses with zoonotic potential. An important research topic in 2021 was SARS-CoV-2. The development and diagnostics branches focus on assays and tests for various viral animal diseases. Through the cooperation with the Vetsuisse Faculty of the University of Bern, the IVI is also responsible for the teaching of virology and immunology.

For further information please visit: <https://www.ivi.admin.ch/ivi/en/home.html>

### Form A, part 1 (ii)

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

Biosafety level 3 <sup>7</sup>	N/A
Biosafety level 2 <sup>8</sup> (if applicable)	N/A

Any additional relevant information as appropriate:

N/A



## **Part 2 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.

### **Form A, part 2 (i)**

#### **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.

### **Form A, part 2 (ii)**

## 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 tests for the rapid diagnosis as well as for identification and characterization, 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, diagnostic and identification techniques. 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.

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 Division of Spiez Laboratory is concerned with the identification of biological agents and toxins, as well as supports military biological protection units. The Biology Division has expertise in the fields of virology, bacteriology and toxinology, as well as biosafety and biosecurity.

Spiez Laboratory possesses a high containment facility that allows for the safe handling of biological agents of all risk groups. It is the only BSL4 high containment facility in Switzerland holding a license which is not limited to diagnostic purposes. It serves towards the comprehensive detection and identification of human pathogens. This enables Spiez Laboratory to act in the Regional Laboratory Network as both a Regional Competence Center and as a National Reference Center / National Reference Laboratory 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: <https://www.spiezlab.admin.ch/en/home.html>

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.

Total Funding: 5'000'000 p.a.

Funding Currency: CHF

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?

10 %

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 2021 were as follows:

- Eidgenössische Technische Hochschule Zürich – ETHZ  
Functional Genomics Center Zurich – FGCZ  
Winterthurerstrasse 190  
CH-8057 Zürich  
Switzerland  
Project title: „Next Generation Sequencing“
- Eidgenössische Technische Hochschule Zürich – ETHZ  
Center for Security Studies – CSS  
Haldeneggsteig 4, IFW  
CH-8092 Zürich  
Switzerland  
Project title: „Analysis of trends in science and policy“
- Robert Koch-Institut – RKI  
Zentrum für Biologische Toxine – ZBS3  
Nordufer 20  
DE-13353 Berlin  
Germany  
Project title: „Development of highly sensitive and specific immunological detection of Staphylococcus aureus enterotoxins C, D, E, G, H and I“
- Scuola Universitaria Professionale della Svizzera Italiana – SUPSI  
Istituto Microbiologia  
Via Mirasole 22a  
CH-6500 Bellinzona  
Switzerland  
Project title: „Vector Surveillance“  
Project title: „Development of mass spectrometric sequencing procedures to identify biotoxins“  
Project title: „Establishment of a CRISPR-Cas System for agile diagnostics and antiviral testing“
- Swiss Tropical and Public Health Institute – SwissTPH  
Socinstrasse 57  
CH-4051 Basel  
Switzerland  
Project title: „Next Generation Sequencing“
- Universität Bern – UniBE  
Interfaculty Bioinformatics Unit – IBU  
Baltzerstrasse 6  
CH-3012 Bern  
Switzerland  
Project title: „Functional Characterisation of Francisella tularensis holarctica with a proteogenomic approach“
- Université de Lausanne / Centre Hospitalier Universitaire Vaudois – Unil / CHUV  
Institut de microbiologie – IMUL  
Rue du Bugnon 48  
CH-1011 Lausanne  
Switzerland  
Project title: „Novel therapeutic strategies against highly pathogenic viruses“

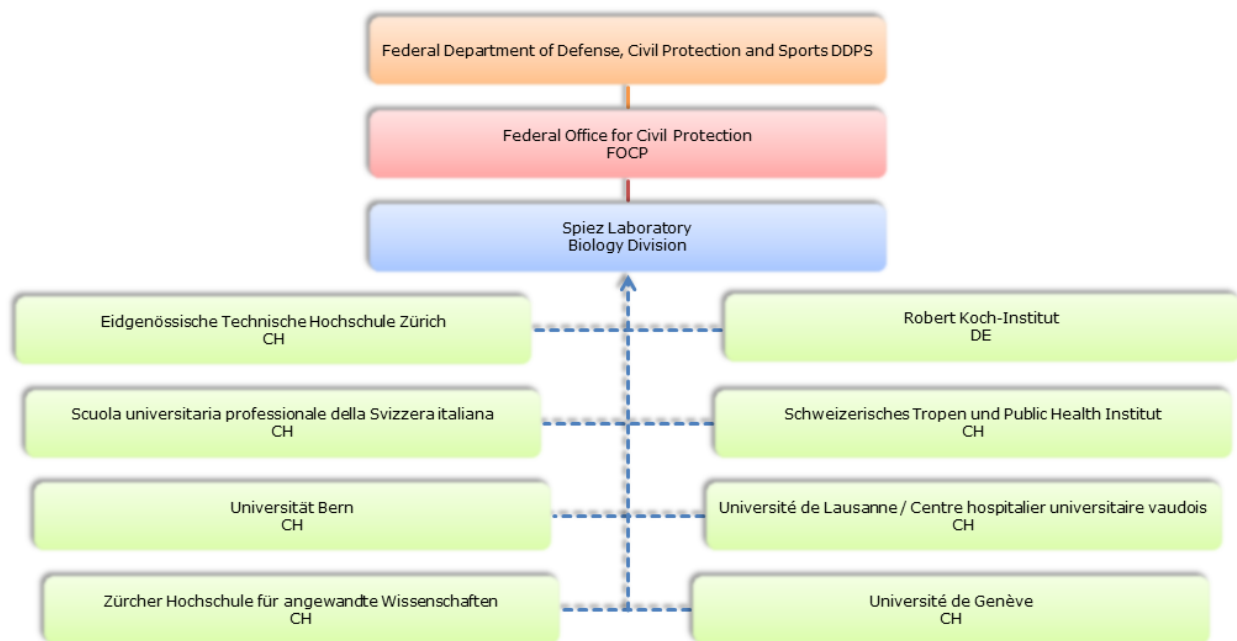
Project title: „Identification and evaluation of antiviral substances against Hantavirus infections”

Project title: „Pseudovirion Testing”

Project title: „Assessment of tenacity of highly pathogenic viruses, antivirals and inactivation strategies as well as evaluation of clinical samples”

- Zürcher Hochschule für Angewandte Wissenschaften – ZHAW  
Einsiedlerstrasse 31  
CH-8820 Wädenswil  
Switzerland  
Project title: „Activity testing of potentially antiviral substances against highly pathogenic viruses“
- Universität Bern – UniBE  
Department for Biomedical Research  
Sahli-Haus 2  
CH-3010 Bern  
Switzerland  
Project title: „Assessment of tenacity of highly pathogenic viruses, antivirals and inactivation strategies as well as evaluation of clinical samples”
- Université de Genève  
Department of Microbiology and Molecular Medicine  
1 rue Michel-Servet  
CH-1211 Genève 4  
Switzerland  
Project title: „Antiviral activity of cyclodextrin against highly pathogenic viruses”

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



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).

Attachments:

N/A

### 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 identification 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 identification of pathogens, whereas National Reference Centers are qualified for confirmatory analysis. 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 (bold) or as an affiliated canton:

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

Of note, the two cantons of Genève (GE) and Vaud (VD) share the authority over the Regional Laboratory West. The Principality of Liechtenstein (FL) participates in the Regional Laboratory East. For an explanation of abbreviations, please refer to the comprehensive map presented in paragraph 6.

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

Function	Authority	Facility
NRC	GDK	Labor Spiez Centre National de Référence pour les Infections Virales Emergentes Institut für Virologie und Immunologie
RL 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
RL West Central	Canton of Bern	Labor Spiez
RL East Central	Canton of Luzern	Medizinische Mikrobiologie, Luzerner Kantonsspital
RL East	Canton of Zürich	Institut für Medizinische Mikrobiologie Institut für Medizinische Virologie
RL North	Canton of Basel-Stadt	Kantonales Laboratorium Basel-Stadt
RL South	Canton of Ticino	Istituto Microbiologia

Abbreviations:

NRC: National Reference Center  
 RL: Regional Laboratory  
 GDK: Swiss Conference of Cantonal Ministers of Public Health

Information on the Regional Laboratory Network can also be found online (website in French):  
<https://www.bag.admin.ch/bag/fr/home/krankheiten/infektionskrankheiten-bekaempfen/labordiagnostik-infektionskrankheiten/regionallabornetzwerk.html>

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
- All twenty-six cantons of Switzerland
- Principality of Liechtenstein

Total Funding: N/A

Funding Currency: N/A

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?

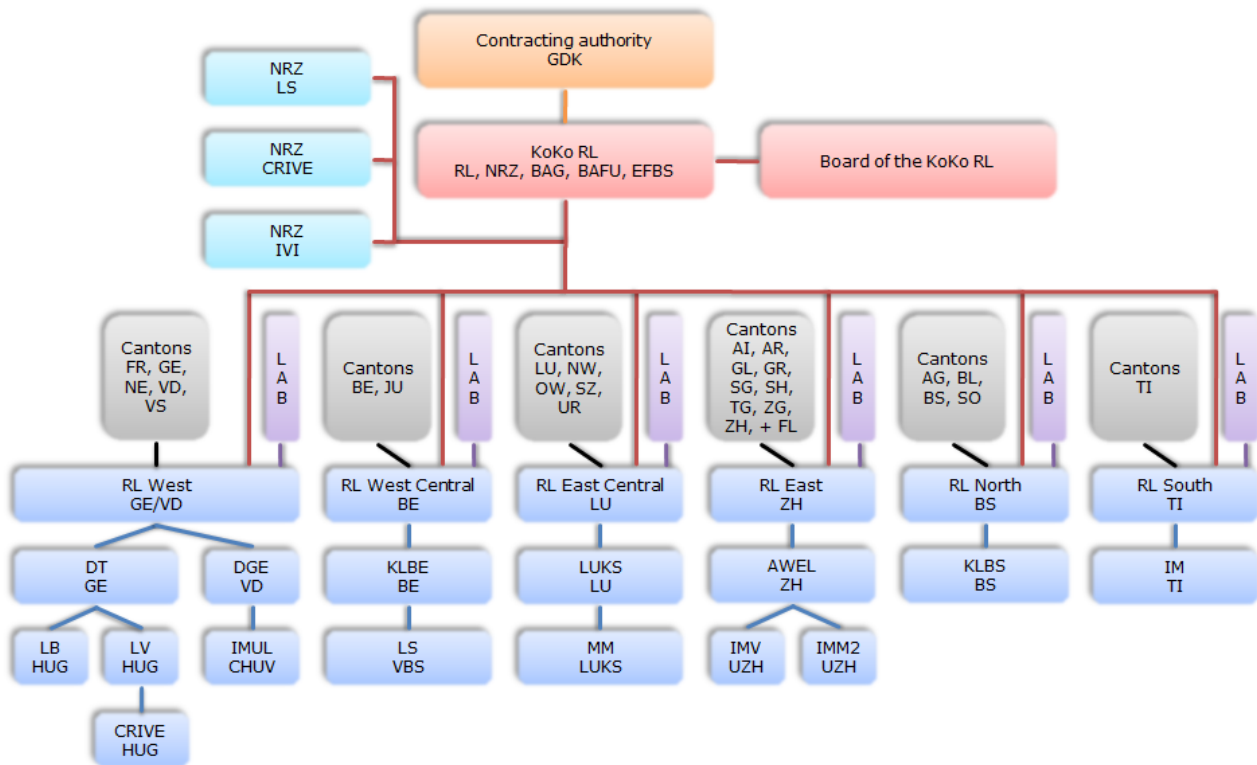
N/A

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 organizaional structure of each programme and the reporting relationships (include individual facilities participating in the programme).





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

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).

Attachments:

N/A

## Form A, part 2 (iii)

### 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.

1. What is the name of the facility?

**Labor Spiez (Spiez Laboratory)**

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

Labor Spiez, Bundesamt für Bevölkerungsschutz, Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport, Austrasse, CH-3700 Spiez, Switzerland

N 46° 41' 26.32", E 7° 38' 39.41"

3. Floor area of laboratory areas by containment level:

BL 2: 483 SqM

BL 3: 126 SqM

BL 4: 118 SqM

*Of note, the BSL4 unit is operational and holds a license as follows: "Development of methods to detect and analyze viral pathogens of risk group 4 (clinical samples, environmental samples, including samples suspect of bioterrorism origin) as well as evaluation of antiviral substances, neutralizing antibodies and decontamination solutions".*

Total laboratory floor area (SqM):

727

4. The organizational structure of each facility.

(i) Total number of personnel: 19

(ii) Division of personnel:

Military: 0

Civilian: 19

(iii) Division of personnel by category:

Scientists: 11

Engineers: 0

Technicians: 8

Administrative and support staff: see below (iv)

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

Virology, bacteriology, toxinology, biosafety and biosecurity.

Of note, as of 1 January 2022 the total number of personnel at Spiez Laboratory amounts to 99, of which 17 in the Biology Division and 2 in the NBC Arms Control Staff Unit dealing with biological matters. Spiez Laboratory also employs a number of administrative and support personnel that cannot be attributed to a single division.

(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):

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)

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

Research: 15 %  
 Development: 10 %  
 Test and evaluation: 5 %

(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)

ARC: An Open Web-Platform for Request/Supply Matching for a Prioritized and Controlled COVID-19 Response.

Courcol JD, Invernizzi CF, Landry ZC, Minisini M, Baumgartner DA, Bonhoeffer S, Chabriw B, Clerc EE, Daniels M, Getta P, Girod M, Kazala K, Markram H, Pasqualini A, Martínez-Pérez C, Peaudcerf FJ, Peaudcerf MS, Pfreundt U, Roller BRK, Słomka J, Vasse M, Wheeler JD, Metzger CMJA, Stocker R, Schürmann F. *Front Public Health*. 2021 Feb 16;9:607677. doi: 10.3389/fpubh.2021.607677. eCollection 2021. PMID: 33665184

Rapid Identification of SARS-CoV-2 Variants of Concern Using a Portable peakPCR Platform.

Bechtold P, Wagner P, Hosch S, Siegrist D, Ruiz-Serrano A, Gregorini M, Mpina M, Ondó FA, Obama J, Ayekaba MO, Engler O, Stark WJ, Daubenberger CA, Schindler T. *Anal Chem*. 2021 Dec 14;93(49):16350-16359. doi: 10.1021/acs.analchem.1c02368. Epub 2021 Dec 1. PMID: 34852455

Identification of Novel Antiviral Compounds Targeting Entry of Hantaviruses.

Mayor J, Torriani G, Engler O, Rothenberger S. *Viruses*. 2021 Apr 16;13(4):685. doi: 10.3390/v13040685. PMID: 33923413

Antiviral Efficacy of Ribavirin and Favipiravir against Hantaan Virus.

Mayor J, Engler O, Rothenberger S. *Microorganisms*. 2021 Jun 15;9(6):1306. doi: 10.3390/microorganisms9061306. PMID: 34203936

Genomics and transcriptomics yields a system-level view of the biology of the pathogen *Naegleria fowleri*.

Herman EK, Greninger A, van der Giezen M, Ginger ML, Ramirez-Macias I, Miller HC, Morgan MJ, Tsaousis AD, Velle K, Vargová R, Záhonová K, Najle SR, MacIntyre G, Muller N, Wittwer M, Zysset-Burri DC, Eliáš M, Slamovits CH, Weirauch MT, Fritz-Laylin L, Marciano-Cabral F, Puzon GJ, Walsh T, Chiu C, Dacks JB. *BMC Biol*. 2021 Jul 22;19(1):142. doi: 10.1186/s12915-021-01078-1. PMID: 34294116

Whole-Genome Assemblies of 16 *Burkholderia pseudomallei* Isolates from Rivers in Laos.

Liechti N, Zimmermann RE, Zopfi J, Robinson MT, Pierret A, Ribolzi O, Rattanavong S, Davong V, Newton PN, Wittwer M, Dance DAB.

Microbiol Resour Announc. 2021 Jan 28;10(4):e01226-20. doi: 10.1128/MRA.01226-20.

PMID: 33509986

Accuracy of serological testing for SARS-CoV-2 antibodies: First results of a large mixed-method evaluation study.

Brigger D, Horn MP, Pennington LF, Powell AE, Siegrist D, Weber B, Engler O, Piezzi V, Damonti L, Iseli P, Hauser C, Froehlich TK, Villiger PM, Bachmann MF, Leib SL, Bittel P, Fiedler M, Largiadèr CR, Marschall J, Stalder H, Kim PS, Jardetzky TS, Eggel A, Nagler M.

Allergy. 2021 Mar;76(3):853-865. doi: 10.1111/all.14608. Epub 2020 Nov 13.

PMID: 32997812

Strengthening the United Nations Secretary-General's Mechanism to an alleged use of bioweapons through a quality-assured laboratory response.

Appelt S, Rohleder AM, Invernizzi C, Mikulak R, Brinkmann A, Nitsche A, Krüger M, Dorner MB, Dorner BG, Scholz HC, Grunow R.

Nat Commun. 2021 May 25;12(1):3078. doi: 10.1038/s41467-021-23296-5.

PMID: 34035242

Notes:

N/A

Attachments:

N/A

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 Office for Civil Protection, is the Swiss Center of Expertise in NBC Protection. Its Biology Division 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 and identification of potential biological warfare and bioterror agents, 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.

Spiez Laboratory is also a National Reference Center mandated by the Swiss Federal Office of Public Health and a National Reference Laboratory mandated by the Swiss Federal Food Safety and Veterinary Office as follows:

- National Reference Center for Anthrax
  - *Bacillus anthracis* (anthrax)
  - *Francisella tularensis* (tularemia)
  - *Yersinia pestis* (plague)
  - *Brucella spp.* (brucellosis)
  - *Burkholderia pseudomallei* (melioidosis)
  - other bacterial pathogens according to requirements of the national coordination committee of the Regional Laboratory Network

In addition, Spiez Laboratory supports the National Reference Center for Emerging Viral Infections responsible for the detection of emerging and reemerging viruses of all biosafety levels, especially hemorrhagic fever viruses and variola virus.

Spiez Laboratory's Biology Division holds an accreditation by the Swiss Accreditation Service as "Testing laboratory for the detection of biological agents" (STS 0054) according to the international standard ISO/IEC 17025:2017.

For additional information please visit:

<https://www.spiezlab.admin.ch/en/home.html>

1. What is the name of the facility?

**Centre National de Référence pour les Infections Virales Emergentes (National Reference Center for Emerging Viral Infections)**

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

Centre National de Référence pour les Infections Virales Emergentes, Laboratoire de Virologie, Hôpitaux Universitaires de Genève, Rue Gabrielle Perret-Gentil 4, CH-1205 Genève, Switzerland

N 46° 11' 37.20", E 6° 8' 59.92"

3. Floor area of laboratory areas by containment level:

BL 2: 29 SqM

BL 3: 39 SqM

BL 4: 36 SqM

*Of note, the BSL4 unit is operational and holds a license for diagnostic purposes only, as follows:  
"Detection of viruses in clinical samples by molecular and/or serological methods".*

Total laboratory floor area (SqM):

104

4. The organizational structure of each facility.

(i) Total number of personnel: 6

(ii) Division of personnel:

Military: 0

Civilian: 6

(iii) Division of personnel by category:

Scientists: 4

Engineers: 0

Technicians: 2

Administrative and support staff: 0

(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).

Research	2 %
Development	55 %
Test & Evaluation	15 %
Analysis / Diagnosis	20 %
Education & Training	1 %
Other activities	7 % (costs for maintenance and administration)

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

Research: 2 %  
 Development: 55 %  
 Test and evaluation: 15 %

(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)

Novel SARS-CoV-2 variants: the pandemics within the pandemic.

Boehm E, Kronig I, Neher RA, Eckerle I, Vetter P, Kaiser L; Geneva Centre for Emerging Viral Diseases. *Clin Microbiol Infect.* 2021 Aug;27(8):1109-1117. doi: 10.1016/j.cmi.2021.05.022. Epub 2021 May 17. PMID: 34015535 Free PMC article. Review.

An action plan for pan-European defence against new SARS-CoV-2 variants.

Priesemann V, Balling R, Brinkmann MM, Ciesek S, Czypionka T, Eckerle I, Giordano G, Hanson C, Hel Z, Hotulainen P, Klimek P, Nassehi A, Peichl A, Perc M, Petelos E, Prainsack B, Szczurek E. *Lancet.* 2021 Feb 6;397(10273):469-470. doi: 10.1016/S0140-6736(21)00150-1. Epub 2021 Jan 21. PMID: 33485462 Free PMC article. No abstract available.

Definitions for coronavirus disease 2019 reinfection, relapse and PCR re-positivity.

Yahav D, Yelin D, Eckerle I, Eberhardt CS, Wang J, Cao B, Kaiser L. *Clin Microbiol Infect.* 2021 Mar;27(3):315-318. doi: 10.1016/j.cmi.2020.11.028. Epub 2020 Dec 5. PMID: 33285276 Free PMC article. No abstract available.

Immunological Assessment of Pediatric Multisystem Inflammatory Syndrome Related to Coronavirus Disease 2019.

Grazioli S, Tavaglione F, Torriani G, Wagner N, Rohr M, L'Huillier AG, Leclercq C, Perrin A, Bordessoule A, Beghetti M, Schmid JP, Vavassori S, Perreau M, Eberhardt C, Didierlaurent A, Kaiser L, Eckerle I, Roux-Lombard P, Blanchard-Rohner G. *J Pediatric Infect Dis Soc.* 2021 Aug 14;10(6):706-713. doi: 10.1093/jpids/piaa142. PMID: 33180935 Free PMC article.

Antibody persistence in the first 6 months following SARS-CoV-2 infection among hospital workers: a prospective longitudinal study.

L'Huillier AG, Meyer B, Andrey DO, Arm-Vernez I, Baggio S, Didierlaurent A, Eberhardt CS, Eckerle I, Grasset-Salomon C, Huttner A, Posfay-Barbe KM, Royo IS, Pralong JA, Vuilleumier N, Yerly S, Siegrist CA, Kaiser L; Geneva Centre for Emerging Viral Diseases. *Clin Microbiol Infect.* 2021 Jan 20;27(5):784.e1-8. doi: 10.1016/j.cmi.2021.01.005. Online ahead of print. PMID: 33482352 Free PMC article.

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Viral Load in the Upper Respiratory Tract of Children and Adults With Early Acute Coronavirus Disease 2019 (COVID-19).

Baggio S, L'Huillier AG, Yerly S, Bellon M, Wagner N, Rohr M, Huttner A, Blanchard-Rohner G, Loevy N, Kaiser L, Jacquerioz F, Eckerle I.

Clin Infect Dis. 2021 Jul 1;73(1):148-150. doi: 10.1093/cid/ciaa1157.

PMID: 32761228 Free PMC article.

Puumala Virus Infection in Family, Switzerland.

Vetter P, L'Huillier AG, Montalbano MF, Pigny F, Eckerle I, Torriani G, Rothenberger S, Laubscher F, Cordey S, Kaiser L, Schibler M.

Emerg Infect Dis. 2021 Feb;27(2):658-660. doi: 10.3201/eid2702.203770.

PMID: 33496646 Free PMC article.

Digital COVID Credentials: An Implementation Process.

Nehme M, Kaiser L, Gillet P, Thevoz P, Stringhini S, Guessous I.

Front Digit Health. 2021 Jun 25;3:594124. doi: 10.3389/fdgth.2021.594124. eCollection 2021.

PMID: 34713082 Free PMC article. No abstract available.

SARS-CoV-2 rapid diagnostic tests for emerging variants.

Bekliz M, Adea K, Essaidi-Laziosi M, Sacks JA, Escadafal C, Kaiser L, Eckerle I.

Lancet Microbe. 2021 Aug;2(8):e351. doi: 10.1016/S2666-5247(21)00147-6. Epub 2021 Jun 29.

PMID: 34223400 Free PMC article. No abstract available.

Paradoxes and Uncertainties of Immunomodulatory Treatments in the Fight Against Coronavirus Disease 2019.

Kaiser L, Vu DL, Eberhardt CS.

Clin Infect Dis. 2021 Jun 15;72(12):e1144-e1145. doi: 10.1093/cid/ciaa1837.

PMID: 33285564 Free PMC article. No abstract available.

Viral Loads of SARS-CoV-2 in Young Children.

L'Huillier AG, Baggio S, Eckerle I.

JAMA Pediatr. 2021 May 1;175(5):529-530. doi: 10.1001/jamapediatrics.2020.5548.

PMID: 33523127 No abstract available.

Blood virosphere in febrile Tanzanian children.

Cordey S, Laubscher F, Hartley MA, Junier T, Keitel K, Docquier M, Guex N, Iseli C, Vieille G, Le Mercier P, Gleizes A, Samaka J, Mlaganile T, Kagoro F, Masimba J, Said Z, Temba H, Elbanna GH, Tapparel C, Zanella MC, Xenarios I, Fellay J, D'Acremont V, Kaiser L.

Emerg Microbes Infect. 2021 Dec;10(1):982-993. doi: 10.1080/22221751.2021.1925161.

PMID: 33929935 Free PMC article.

Perceptions of vaccination certificates among the general population in Geneva, Switzerland.

Nehme M, Baysson H, Pullen N, Wisniak A, Pennacchio F, Zaballa ME, Fagnoli V, Kaiser L, Hurst S, Burton-Jeangros C, Stringhini S, Guessous I; Specchio-COVID19 study group.

Swiss Med Wkly. 2021 Nov 29;151:w30079. doi: 10.4414/smw.2021.w30079. eCollection 2021 Nov 22.

PMID: 34846113

SARS-CoV-2 antigen-detecting rapid tests for the delta variant.

Bekliz M, Adea K, Essaidi-Laziosi M, Sacks JA, Escadafal C, Kaiser L, Eckerle I.

Lancet Microbe. 2022 Feb;3(2):e90. doi: 10.1016/S2666-5247(21)00302-5. Epub 2021 Nov 24.

PMID: 34849494 Free PMC article. No abstract available.

Seroprevalence of anti-SARS-CoV-2 antibodies after the second pandemic peak.

Stringhini S, Zaballa ME, Perez-Saez J, Pullen N, de Mestral C, Picazio A, Pennacchio F, Wisniak A, Richard A, Baysson H, Loizeau A, Balavoine JF, Trono D, Pittet D, Posfay-Barbe K, Flahault A, Chappuis F, Kherad O, Vuilleumier N, Kaiser L, Azman AS, Guessous I; Specchio-COVID19 Study Group.

Lancet Infect Dis. 2021 May;21(5):600-601. doi: 10.1016/S1473-3099(21)00054-2. Epub 2021 Feb 1.

PMID: 33539733 Free PMC article. No abstract available.

Quantification of the spread of SARS-CoV-2 variant B.1.1.7 in Switzerland.

Chen C, Nadeau SA, Topolsky I, Manceau M, Huisman JS, Jablonski KP, Fuhrmann L, Dreifuss D, Jahn K, Beckmann C, Redondo M, Noppen C, Risch L, Risch M, Wohlwend N, Kas S, Bodmer T, Roloff T, Stange M, Egli A, Eckerle I, Kaiser L, Denes R, Feldkamp M, Nissen I, Santacroce N, Burcklen E, Aquino C, de Gouvea AC, Moccia MD, Grüter S, Sykes T, Opitz L, White G, Neff L, Popovic D, Patrignani A, Tracy J, Schlapbach R, Dermitzakis ET, Harshman K, Xenarios I, Pegeot H, Cerutti L, Penet D, Blin A, Elies M, Althaus CL, Beisel C, Beerenwinkel N, Ackermann M, Stadler T.

Epidemics. 2021 Dec;37:100480. doi: 10.1016/j.epidem.2021.100480. Epub 2021 Aug 9.

PMID: 34488035 Free PMC article.

Prognosis of Laboratory-Confirmed Influenza and Respiratory Syncytial Virus in Acute Heart Failure.

Carballo D, Garin N, Stirnemann J, Mamin A, Prendki V, Meyer P, Marti C, Mach F, Reny JL, Serratrice J, Kaiser L, Carballo S.

J Clin Med. 2021 Sep 30;10(19):4546. doi: 10.3390/jcm10194546.

PMID: 34640562 Free PMC article.

Insights into household transmission of SARS-CoV-2 from a population-based serological survey.

Bi Q, Lessler J, Eckerle I, Lauer SA, Kaiser L, Vuilleumier N, Cummings DAT, Flahault A, Petrovic D, Guessous I, Stringhini S, Azman AS; SEROCov-POP Study Group.

Nat Commun. 2021 Jun 15;12(1):3643. doi: 10.1038/s41467-021-23733-5.

PMID: 34131124 Free PMC article.

Socioeconomically Disadvantaged Neighborhoods Face Increased Persistence of SARS-CoV-2 Clusters.

De Ridder D, Sandoval J, Vuilleumier N, Azman AS, Stringhini S, Kaiser L, Joost S, Guessous I.

Front Public Health. 2021 Jan 27;8:626090. doi: 10.3389/fpubh.2020.626090. eCollection 2020.

PMID: 33614571 Free PMC article.

Viral co-infections among SARS-CoV-2-infected children and infected adult household contacts.

Pigny F, Wagner N, Rohr M, Mamin A, Cherpillod P, Posfay-Barbe KM, Kaiser L, Eckerle I, L'Huillier AG; Geneva Pediatric COVID Group.

Eur J Pediatr. 2021 Jun;180(6):1991-1995. doi: 10.1007/s00431-021-03947-x. Epub 2021 Jan 27.

PMID: 33502627 Free PMC article.

Serology-informed estimates of SARS-CoV-2 infection fatality risk in Geneva, Switzerland.

Perez-Saez J, Lauer SA, Kaiser L, Regard S, Delaporte E, Guessous I, Stringhini S, Azman AS; Serocov-POP Study Group.

Lancet Infect Dis. 2021 Apr;21(4):e69-e70. doi: 10.1016/S1473-3099(20)30584-3. Epub 2020 Jul 14.

PMID: 32679085 Free PMC article. No abstract available.

Persistence of anti-SARS-CoV-2 antibodies: immunoassay heterogeneity and implications for serosurveillance.

Perez-Saez J, Zaballa ME, Yerly S, Andrey DO, Meyer B, Eckerle I, Balavoine JF, Chappuis F, Pittet D, Trono D, Kherad O, Vuilleumier N, Kaiser L, Guessous I, Stringhini S, Azman AS; Specchio-COVID19 Study Group.

Clin Microbiol Infect. 2021 Nov;27(11):1695.e7-1695.e12. doi: 10.1016/j.cmi.2021.06.040. Epub 2021 Jul 7.

PMID: 34245905 Free PMC article.

Estimating clinical SARS-CoV-2 infectiousness in Vero E6 and primary airway epithelial cells.

Essaidi-Laziosi M, Perez Rodriguez FJ, Hulo N, Jacquieroz F, Kaiser L, Eckerle I.

Lancet Microbe. 2021 Nov;2(11):e571. doi: 10.1016/S2666-5247(21)00216-0. Epub 2021 Aug 27.

PMID: 34485956 Free PMC article. No abstract available.

Treatment of COVID-19 Pneumonia: the Case for Placenta-derived Cell Therapy.  
Berishvili E, Kaiser L, Cohen M, Berney T, Scholz H, Floisand Y, Mattsson J.  
Stem Cell Rev Rep. 2021 Feb;17(1):63-70. doi: 10.1007/s12015-020-10004-x.  
PMID: 32696426 Free PMC article.

Antibody responses to SARS-CoV2 vaccination in allogeneic hematopoietic stem cell transplant recipients.  
Mamez AC, Pradier A, Giannotti F, Petitpas A, Urdiola MF, Vu DL, Masouridi-Levrat S, Morin S, Dantin C, Clerc-Renaud D, Eberhardt CS, Kaiser L, Simonetta F, Chalandon Y.  
Bone Marrow Transplant. 2021 Dec;56(12):3094-3096. doi: 10.1038/s41409-021-01466-9. Epub 2021 Sep 28.  
PMID: 34584239 Free PMC article. No abstract available.

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Viral Load Kinetics in Symptomatic Children, Adolescents, and Adults.  
Bellon M, Baggio S, Jacqueroz Bausch F, Spechbach H, Salamun J, Genecand C, Tardin A, Kaiser L, L'Huillier AG, Eckerle I.  
Clin Infect Dis. 2021 Sep 15;73(6):e1384-e1386. doi: 10.1093/cid/ciab396.  
PMID: 33949655 Free PMC article.

Clinical, virologic and immunologic features of a mild case of SARS-CoV-2 reinfection.  
Vetter P, Cordey S, Schibler M, Vieux L, Despres L, Laubscher F, Andrey DO, Martischang R, Harbarth S, Cuvelier C, Bekliz M, Eckerle I, Siegrist CA, Didierlaurent AM, Eberhardt CS, Meyer B, Kaiser L; Geneva Center for Emerging Viral Diseases.  
Clin Microbiol Infect. 2021 Feb 20;27(5):791.e1-4. doi: 10.1016/j.cmi.2021.02.010. Online ahead of print.  
PMID: 33618012 Free PMC article.

Diagnostic accuracy of Panbio rapid antigen tests on oropharyngeal swabs for detection of SARS-CoV-2.  
Ngo Nsoga MT, Kronig I, Perez Rodriguez FJ, Sattonnet-Roche P, Da Silva D, Helbling J, Sacks JA, de Vos M, Boehm E, Gayet-Ageron A, Berger A, Jacqueroz-Bausch F, Chappuis F, Kaiser L, Schibler M, Renzoni A, Eckerle I.  
PLoS One. 2021 Jun 24;16(6):e0253321. doi: 10.1371/journal.pone.0253321. eCollection 2021.  
PMID: 34166410 Free PMC article. Clinical Trial.

Head-to-Head Evaluation of Five Automated SARS-CoV-2 Serology Immunoassays in Various Prevalence Settings.  
Andrey DO, Yerly S, Meyer B, Arm-Vernez I, Roux-Lombard P, Togni G, Guessous I, Spechbach H, Stringhini S, Agoritsas T, Stirnemann J, Reny JL, Siegrist CA, Eckerle I, Kaiser L, Vuilleumier N.  
J Clin Med. 2021 Apr 10;10(8):1605. doi: 10.3390/jcm10081605.  
PMID: 33920076 Free PMC article.

Molecular epidemiology of respiratory syncytial virus in children in sub-Saharan Africa.  
Ihling CM, Schnitzler P, Heinrich N, Mangu C, Sudi L, Souares A, Gies S, Sié A, Coulibaly B, Ouédraogo AT, Mordmüller B, Held J, Adegnikaa AA, Fernandes JF, Eckerle I, May J, Hogan B, Eibach D, Tabatabai J.  
Trop Med Int Health. 2021 Jul;26(7):810-822. doi: 10.1111/tmi.13573. Epub 2021 Mar 28.  
PMID: 33683751

Large variation in anti-SARS-CoV-2 antibody prevalence among essential workers in Geneva, Switzerland.  
Stringhini S, Zaballa ME, Pullen N, de Mestral C, Perez-Saez J, Dumont R, Picazio A, Pennacchio F, Dibner Y, Yerly S, Baysson H, Vuilleumier N, Balavoine JF, Bachmann D, Trono D, Pittet D, Chappuis F, Kherad O, Kaiser L, Azman AS; SEROCov-WORK + Study Group, Guessous I.  
Nat Commun. 2021 Jun 8;12(1):3455. doi: 10.1038/s41467-021-23796-4.  
PMID: 34103517 Free PMC article.

3



A high-throughput microfluidic nanoimmunoassay for detecting anti-SARS-CoV-2 antibodies in serum or ultralow-volume blood samples.

Swank Z, Michielin G, Yip HM, Cohen P, Andrey DO, Vuilleumier N, Kaiser L, Eckerle I, Meyer B, Maerkl SJ. *Proc Natl Acad Sci U S A*. 2021 May 4;118(18):e2025289118. doi: 10.1073/pnas.2025289118. PMID: 33945500 Free PMC article.

Enhanced fitness of SARS-CoV-2 variant of concern Alpha but not Beta.

Ulrich L, Halwe NJ, Taddeo A, Ebert N, Schön J, Devisme C, Trüb BS, Hoffmann B, Wider M, Fan X, Bekliz M, Essaidi-Laziosi M, Schmidt ML, Niemeyer D, Corman VM, Kraft A, Godel A, Laloli L, Kelly JN, Calderon BM, Breithaupt A, Wylezich C, Berenguer Veiga I, Gultom M, Osman S, Zhou B, Adea K, Meyer B, Eberhardt CS, Thomann L, Gsell M, Labroussaa F, Jores J, Summerfield A, Drosten C, Eckerle IA, Wentworth DE, Dijkman R, Hoffmann D, Thiel V, Beer M, Benarafa C.

*Nature*. 2022 Feb;602(7896):307-313. doi: 10.1038/s41586-021-04342-0. Epub 2021 Dec 22.

PMID: 34937050 Free PMC article.

SARS-CoV-2 infection as a trigger of humoral response against apolipoprotein A-1.

Pagano S, Yerly S, Meyer B, Juillard C, Suh N, Le Terrier C, Dagher JP, Farrera-Soler L, Barluenga S, Piumatti G, Hartley O, Lemaître B, Eberhardt CS, Siegrist CA, Eckerle I, Stringhini S, Guessous I, Kaiser L, Pugin J, Winssinger N, Vuilleumier N.

*Eur J Clin Invest*. 2021 Nov;51(11):e13661. doi: 10.1111/eci.13661. Epub 2021 Aug 4.

PMID: 34324704 Free PMC article.

Robust innate responses to SARS-CoV-2 in children resolve faster than in adults without compromising adaptive immunity.

Vono M, Huttner A, Lemeille S, Martinez-Murillo P, Meyer B, Baggio S, Sharma S, Thiriard A, Marchant A, Godeke GJ, Reusken C, Alvarez C, Perez-Rodriguez F, Eckerle I, Kaiser L, Loevy N, Eberhardt CS, Blanchard-Rohner G, Siegrist CA, Didierlaurent AM.

*Cell Rep*. 2021 Oct 5;37(1):109773. doi: 10.1016/j.celrep.2021.109773. Epub 2021 Sep 15.

PMID: 34587479 Free PMC article.

Sero-molecular epidemiology of hepatitis E virus in pigs and human contacts in Ghana.

Yeboah R, Sylverken AA, Owusu M, El-Duah P, Burimuah V, Frimpong Y, Lamptey J, Eckerle I, Meyer B, Antwi C, Agbenyaga O, Folitse R, Emikpe B, Oppong SK, Adu-Sarkodie Y, Drosten C.

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PMID: 34154674 Free PMC article.

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PMID: 34190574 Free PMC article.

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Identifying adults with acute rhinosinusitis in primary care that benefit most from antibiotics: protocol of an individual patient data meta-analysis using multivariable risk prediction modelling.

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PMID: 34210729 Free PMC article.

SARS-CoV-2 N501Y Introductions and Transmissions in Switzerland from Beginning of October 2020 to February 2021-Implementation of Swiss-Wide Diagnostic Screening and Whole Genome Sequencing.

Goncalves Cabecinhas AR, Roloff T, Stange M, Bertelli C, Huber M, Ramette A, Chen C, Nadeau S, Gerth Y, Yerly S, Opota O, Pillonel T, Schuster T, Metzger CMJA, Sieber J, Bel M, Wohlwend N, Baumann C, Koch MC, Bittel P, Leuzinger K, Brunner M, Suter-Riniker F, Berlinger L, Sogaard KK, Beckmann C, Noppen C, Redondo M, Steffen I, Seth-Smith HMB, Mari A, Lienhard R, Risch M, Nolte O, Eckerle I, Martinetti Lucchini G, Hodcroft EB, Neher RA, Stadler T, Hirsch HH, Leib SL, Risch L, Kaiser L, Trkola A, Greub G, Egli A.

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Inhibition of interferon I induction by non-structural protein NSs of Puumala virus and other vole-associated orthohantaviruses: phenotypic plasticity of the protein and potential functional domains.

Binder F, Gallo G, Bendl E, Eckerle I, Ermonval M, Luttermann C, Ulrich RG.

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Network Analysis of Outpatients to Identify Predictive Symptoms and Combinations of Symptoms Associated With Positive/Negative SARS-CoV-2 Nasopharyngeal Swabs.

Spechbach H, Jacquieroz F, Prendki V, Kaiser L, Smit M, Calmy A, Chappuis F, Guessous I, Salamun J, Baggio S.

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PMID: 34355004 Free PMC article.

Detection of Spatiotemporal Clusters of COVID-19-Associated Symptoms and Prevention Using a Participatory Surveillance App: Protocol for the @choum Study.

De Ridder D, Loizeau AJ, Sandoval JL, Ehrler F, Perrier M, Ritch A, Violot G, Santolini M, Greshake Tzouvaras B, Stringhini S, Kaiser L, Pradeau JF, Joost S, Guessous I.

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PMID: 34449403 Free PMC article.

Epidemiological, clinical, and public health response characteristics of a large outbreak of diphtheria among the Rohingya population in Cox's Bazar, Bangladesh, 2017 to 2019: A retrospective study.

Polonsky JA, Ivey M, Mazhar MKA, Rahman Z, le Polain de Waroux O, Karo B, Jalava K, Vong S, Baidjoe A, Diaz J, Finger F, Habib ZH, Halder CE, Haskew C, Kaiser L, Khan AS, Sangal L, Shirin T, Zaki QA, Salam MA, White K.

PLoS Med. 2021 Apr 1;18(4):e1003587. doi: 10.1371/journal.pmed.1003587. eCollection 2021 Apr.

PMID: 33793554 Free PMC article.

Severe acute respiratory coronavirus virus 2 (SARS-CoV-2) seroconversion and occupational exposure of employees at a Swiss university hospital: A large longitudinal cohort study.

Martischang R, Iten A, Arm I, Abbas M, Meyer B, Yerly S, Eckerle I, Pralong J, Sauser J, Suard JC, Kaiser L, Pittet D, Harbarth S.

Infect Control Hosp Epidemiol. 2021 Mar 19:1-8. doi: 10.1017/ice.2021.117. Online ahead of print.

PMID: 33736734 Free PMC article.

Burden, epidemiology, and outcomes of microbiologically confirmed respiratory viral infections in solid organ transplant recipients: a nationwide, multi-season prospective cohort study.

Mombelli M, Lang BM, Neofytos D, Aubert JD, Benden C, Berger C, Boggian K, Egli A, Soccacal PM, Kaiser L, Hirzel C, Pascual M, Koller M, Mueller NJ, van Delden C, Hirsch HH, Manuel O; Swiss Transplant Cohort Study. Am J Transplant. 2021 May;21(5):1789-1800. doi: 10.1111/ajt.16383. Epub 2020 Nov 28.

PMID: 33131188

Effects of antibiotic duration on the intestinal microbiota and resistome: The PIRATE RESISTANCE project, a cohort study nested within a randomized trial.

Leo S, Lazarevic V, von Dach E, Kaiser L, Prendki V, Schrenzel J, Huttner BD, Huttner A.

EBioMedicine. 2021 Sep;71:103566. doi: 10.1016/j.ebiom.2021.103566. Epub 2021 Sep 4.

PMID: 34492446 Free PMC article. Clinical Trial.

Notes:

N/A

Attachments:

N/A

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 Diseases (CRIVE/NAVI) is a national reference laboratory by order of the Federal Office of Public Health. Its task is the detection of emerging and re-emerging viruses of all biosafety levels, especially hemorrhagic fever viruses and smallpox 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 Diseases is part of the Laboratory of Virology (LV) at the University Hospitals of Geneva. Since January 1st, 2018, the CRIVE acts also as WHO National Center for Measles and Rubella.

Since the beginning of 2020, the CRIVE has been performing about 200'000 SARS-CoV-2 screening PCR and many thousands serologies. Currently, the CRIVE also performs Sanger and NGS sequencing on SARS-CoV-2 genomes for identification of variants.

The LV performs the analysis of many viruses impacting the human health as done in most of the hospitals (HIV, Hepatitis, CMV, EBV, respiratory and enteric viruses, etc.). LV does most of the viral analysis needed by an university hospital.

LV also hosts the Swiss National Center for Influenza.

For further information please visit (website in French):

<https://www.hug-ge.ch/laboratoire-virologie>

1. What is the name of the facility?

**Institut für Virologie und Immunologie (Institute of Virology and Immunology)**

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

Institut für Virologie und Immunologie, Bundesamt für Lebensmittelsicherheit und Veterinärwesen,  
Eidgenössisches Departement des Innern, Sensemattstrasse 293, CH-3147 Mittelhäusern, Switzerland

N 46° 52' 50.20", E 7° 21' 46.81"

3. Floor area of laboratory areas by containment level:

BL 2: 600 SqM

BL 3: 100 SqM

ABL 3 Ag: 10000 SqM

*Of note, ABL3Ag facilities have special features not comparable to standard BSL3 or BSL4 facilities. The shell is considered BSL4, whereas inside the containment area BSL1, BSL2 and BSL3 space is common standard. Personnel enters through a shower barrier and is provided with suitable laboratory clothing for BSL1, 2 and 3 inside the containment area. Personnel has to shower out when leaving the containment area and has to keep a 72h quarantine (no contact to cloven hoofed animals). The IVI fulfills the requirements of the EU Minimum Biorisk Management Standards for Laboratories Working with Foot-And-Mouth Disease Virus. Due to these special features of ABL3Ag facilities, the ABL3Ag area is not limited to laboratory units only, but also includes engineering floors such as effluent treatment plant or ventilation units and animal units, which are all located within the containment area. Therefore, all maintenance work has to 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. Licenses are as follows: "Study of African swine fever immunopathogenesis in domestic pigs"; "Quality controls of immuno-biological products for use in applications of veterinary medicine"; "Establishment of a cell-based rapid test to determine protection provided by vaccination against foot-and-mouth disease virus"; "Peste des petits ruminants virulence".*

Total laboratory floor area (SqM):

10700

4. The organizational structure of each facility.

(i) Total number of personnel: 64

(ii) Division of personnel:

Military: 0

Civilian: 64

(iii) Division of personnel by category:

Scientists: 31

Engineers: 8

Technicians: 20

Administrative and support staff: 5

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

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

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

1

(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).

Research	20 %
Development	10 %
Test & Evaluation	5 %
Analysis / Diagnosis	25 %
Education & Training	10 %
Other activities	30 % (costs for safety, infrastructure and administration)

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

Research: 20 %

Development: 10 %

Test and evaluation: 5 %

(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)

Agerer, B., Koblichke, M., Gudipati, V., Montañó-Gutierrez, L.F., Smyth, M., Popa, A., Genger, J.W., Endler, L., Florian, D.M., Mühlgrabner, V., Graninger, M., Aberle, S.W., Husa, A.M., Shaw, L.E., Lercher, A., Gattinger, P., Torralba-Gombau, R., Trapin, D., Penz, T., Barreca, D., Fae, I., Wenda, S., Traugott, M., Walder, G., Pickl, W.F., Thiel, V., Allerberger, F., Stockinger, H., Puchhammer-Stöckl, E., Weninger, W., Fischer, G., Hoepfer, W., Pawelka, E., Zoufaly, A., Valenta, R., Bock, C., Paster, W., Geyeregger, R., Farlik, M., Halbritter, F., Huppa, J.B., Aberle, J.H., and Berghaler, A. (2021) SARS-CoV-2 mutations in MHC-I-restricted epitopes evade CD8+ T cell responses. *Science Immunology* 6:57, eabg6461. (PubMed) (Artikel)

Asín, J., Hilbe, M., de Miguel, R., Rodríguez-Largo, A., Lanau, A., Akerman, A., Stalder, H.P., Schweizer, M., and Luján, L. (2021) An outbreak of abortions, stillbirths, and malformations in a Spanish sheep flock associated with a bovine viral diarrhoea virus 2-contaminated orf vaccine. *Transboundary and Emerging Diseases* 68:2, 233-239. (PubMed) (Artikel)

Ayrle, H., Mevissen, M., Bruckmaier, R.M., Wellnitz, O., Kaske, M., Bieber, A., Vögtlin, A., Fricker, R., and Walkenhorst, M. (2021) Effects of an oral hydro-ethanolic purple coneflower extract on performance, clinical health and immune parameters in calves. *Research in Veterinary Science* 138, 148-160. (PubMed) (Artikel)

Borcard, L.V.#, Kick, A.R., Hug, C., Lischer, H.E.L., Käser, T., and Summerfield, A. (2021) Systems immunology analyses following porcine respiratory and reproductive syndrome virus infection and vaccination. *Frontiers in Immunology* 12, 779747. (PubMed) (Artikel)

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Weigang, S., Fuchs, J., Zimmer, G., Schnepf, D., Kern, L., Beer, J., Luxenburger, H., Ankerhold, J., Falcone, V., Kemming, J., Hofmann, M., Thimme, R., Neumann-Haefelin, C., Ulferts, S., Grosse, R., Hornuss, D., Tanriver, Y., Rieg, S., Wagner, D., Huzly, D., Schwemmle, M., Panning, M., and Kochs, G. (2021) Within-host evolution of SARS-CoV-2 in an immunosuppressed COVID-19 patient as a source of immune escape variants. *Nature Communications* 12:1, 6405. (PubMed) (Artikel)

Welner, S., Ruggli, N., Liniger, M., Summerfield, A., Larsen, L.E., and Jungersen, G. (2021) Reduced virus load in lungs of pigs challenged with porcine reproductive and respiratory syndrome virus after vaccination with virus replicon particles encoding conserved PRRSV cytotoxic T-cell epitopes. *Vaccines* 9:3, 208. (PubMed) (Artikel)

Wieland, B., Daborn, C., Debnath, N., and Silva-Fletcher, A. (2021) Continuing professional development for veterinarians in a changing world. *Revue Scientifique et Technique - Office International des Epizooties* 40:2, 555-566. (PubMed) (Artikel)

Zaugg, I., and Ottiger, H.P. (2021) Vaccinovigilance: Gemeldete unerwünschte Arzneimittelwirkungen immunologischer Tierarzneimittel im Jahr 2020. *Schweizer Archiv für Tierheilkunde* 163:9, 545-552. (PubMed) (Artikel)

Zhou, B., Thao, T.T.N.#, Hoffmann, D., Taddeo, A., Ebert, N., Labroussaa, F., Pohlmann, A., King, J., Steiner, S.#, Kelly, J.N., Portmann, J., Halwe, N.J., Ulrich, L., Trüeb, B.S., Fan, X., Hoffmann, B., Wang, L., Thomann, L., Lin, X., Stalder, H.P., Pozzi, B., de Brot, S., Jiang, N., Cui, D., Hossain, J., Wilson, M., Keller, M., Stark, T.J., Barnes, J.R., Dijkman, R., Jores, J., Benarafa, C., Wentworth, D.E., Thiel, V., and Beer, M. (2021) SARS-CoV-2 spike D614G change enhances replication and transmission. *Nature* 592:7852, 122-127. (PubMed) (Artikel)

Zimmer, G. (2021) Rhabdoviruses as vaccine vectors for veterinary pathogens. In: *Viral Vectors in Veterinary Vaccine Development: A Textbook*. Vanniasinkam, T., Tikoo, S.K., and Samal, S.K. (Eds.). Springer International Publishing, Cham, p. 141-148. (Artikel)

Notes:

N/A

Attachments:

N/A

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

The Institute of Virology and Immunology (IVI), which is part of the Swiss Federal Food Safety and Veterinary Office, is the ISO 17025 accredited institute for the diagnosis, surveillance and control of highly contagious epizootics. As such the IVI is the national reference laboratory for >25 pathogens. 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, African swine fever virus and new emergent viruses with zoonotic potential. An important research topic in 2021 was SARS-CoV-2. The development and diagnostics branches focus on assays and tests for various viral animal diseases. Through the cooperation with the Vetsuisse Faculty of the University of Bern, the IVI is also responsible for the teaching of virology and immunology.

For further information please visit: <https://www.ivi.admin.ch/ivi/en/home.html>

1. What is the name of the facility?

**Laboratoire de Bactériologie (Bacteriological Laboratory)**

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

Laboratoire de Bactériologie, Hôpitaux Universitaires de Genève, Rue Gabrielle Perret-Gentil 4, CH-1205

Genève 14, Switzerland

N 46° 11' 37.20", E 6° 8' 59.92"

3. Floor area of laboratory areas by containment level:

BL 2: 394 SqM

BL 3: 74 SqM

Total laboratory floor area (SqM):

468

4. The organizational structure of each facility.

(i) Total number of personnel: 6

(ii) Division of personnel:

Military: 0

Civilian: 6

(iii) Division of personnel by category:

Scientists: 2

Engineers: 0

Technicians: 4

Administrative and support staff: 0

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

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

(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.

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

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

Research: 0 %

Development: 5 %

Test and evaluation: 40 %

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

Publication in peer-reviewed 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)

Outbreak of *Pseudomonas aeruginosa* producing VIM carbapenemase in an intensive care unit and its termination by implementation of waterless patient care.

Catho G, Martischang R, Boroli F, Chraïti MN, Martin Y, Koylum Tomsuk Z, Renzi G, Schrenzel J, Pugin J, Nordmann P, Blanc DS, Harbarth S

Crit Care. 2021 Aug 19;25(1):301. doi: 10.1186/s13054-021-03726-y.

[Abstract] [PubMed]

Performance of Fully Automated Antimicrobial Disk Diffusion Susceptibility Testing Using Copan WASP Colibri Coupled to the Radian In-Line Carousel and Expert System.

Cherkaoui A, Renzi G, Vuilleumier N, Schrenzel J

J Clin Microbiol. 2021 Aug 18;59(9):e0077721. doi: 10.1128/JCM.00777-21. Epub 2021 Aug 18.

[Abstract] [PubMed]

The human gut mycobiome and the specific role of *Candida albicans*: where do we stand, as clinicians?

Musumeci S, Coen M, Leidi A, Schrenzel J

Clin Microbiol Infect. 2021 Aug 4:S1198-743X(21)00429-8. doi: 10.1016/j.cmi.2021.07.034.

[Abstract] [PubMed]

The Potential Role of Clinical Metagenomics in Infectious Diseases: Therapeutic Perspectives.

d'Humières C, Salmona M, Dellière S, Leo S, Rodriguez C, Angebault C, Alanio A, Fourati S, Lazarevic V, Woerther PL, Schrenzel J, Ruppé E

Drugs. 2021 Jul 30:1-14. doi: 10.1007/s40265-021-01572-4.

[Abstract] [PubMed]

Populations of extended-spectrum  $\beta$ -lactamase-producing *Escherichia coli* and *Klebsiella pneumoniae* are different in human-polluted environment and food items: A multicentre European study.

Martak D, Guther J, Verschuuren TD, Valot B, Conzelmann N, Bunk S, Riccio ME, Salamanca E, Meunier A, Henriot CP, Brossier CP, Bertrand X, Cooper BS, Harbarth S, Tacconelli E, Fluit AC, Rodriguez-Baño J, Kluytmans JAJW, Peter S, Hocquet D

Clin Microbiol Infect. 2021 Jul 26:S1198-743X(21)00414-6. doi: 10.1016/j.cmi.2021.07.022.

[Abstract] [PubMed]

New insights into pneumonia in patients on prolonged mechanical ventilation: need for a new paradigm addressing dysbiosis.

Rello J, Schrenzel J, Tejo AM

J Bras Pneumol. 2021 Jun 23;47(3):e20210198. doi: 10.36416/1806-3756/e20210198.

[Abstract] [PubMed]

12/111phiA Prophage Domestication Is Associated with Autoaggregation and Increased Ability to Produce Biofilm in *Streptococcus agalactiae*.

Renard A, Diene SM, Courtier-Martinez L, Gaillard JB, Gbaguidi-Haore H, Mereghetti L, Quentin R, Francois P, Van Der Mee-Marquet N

Microorganisms. 2021 May 21;9(6):1112. doi: 10.3390/microorganisms9061112.

[Abstract] [PubMed]

Performances of automated digital imaging of Gram-stained slides with on-screen reading against manual microscopy.

Fischer A, Azam N, Rasga L, Barras V, Tangomo M, Renzi G, Vuilleumier N, Schrenzel J, Cherkaoui A

Eur J Clin Microbiol Infect Dis. 2021 May 8. doi: 10.1007/s10096-021-04233-2.

[Abstract] [PubMed]

Distribution of pathogens and antimicrobial resistance in bacteraemia according to hospitalization duration: a nationwide surveillance study in Switzerland.

Buetti N, Marschall J, Timsit JF, Atkinson A, Kronenberg A, Sommerstein R

Clin Microbiol Infect. 2021 Apr 30:S1198-743X(21)00212-3. doi: 10.1016/j.cmi.2021.04.025.

[Abstract] [PubMed]



Temporal and regional incidence of carbapenemase-producing Enterobacterales, Switzerland, 2013 to 2018.  
Ramette A, Gasser M, Nordmann P, Zbinden R, Schrenzel J, Perisa D, Kronenberg A  
Euro Surveill. 2021 Apr;26(15):1900760. doi: 10.2807/1560-7917.ES.2021.26.15.1900760.  
[Abstract] [PubMed]

Household acquisition and transmission of extended-spectrum  $\beta$ -lactamase (ESBL) -producing Enterobacteriaceae after hospital discharge of ESBL-positive index patients.  
Ricci ME, Verschuuren T, Conzelmann N, Martak D, Meunier A, Salamanca E, Delgado M, Guther J, Peter S, Paganini J, Martischang R, Sauser J, de Kraker MEA, Cherkaoui A, Fluit AC, Cooper BS, Hocquet D, Kluytmans JAJW, Tacconelli E, Rodriguez-Baño J, Harbarth S  
Clin Microbiol Infect. 2021 Jan 7:S1198-743X(20)30784-9. doi: 10.1016/j.cmi.2020.12.024.  
[Abstract] [PubMed]

Case Report: About a Case of Hyperammonemia Syndrome Following Lung Transplantation: Could Metagenomic Next-Generation Sequencing Improve the Clinical Management?  
Michel C, Raimo M, Lazarevic V, Gaïa N, Leduc N, Knoop C, Hallin M, Vandenberg O, Schrenzel J, Grimaldi D, Hites M  
Front Med (Lausanne). 2021 Jul 6;8:684040. doi: 10.3389/fmed.2021.684040. eCollection 2021.  
[Abstract] [PubMed]

Unexpectedly High False-Positive Rates for Haemophilus influenzae Using a Meningoencephalitis Syndromic PCR Panel in Two Tertiary Centers.  
Zanella MC, Cherkaoui A, Hinic V, Renzi G, Goldenberger D, Egli A, Schrenzel J  
Front Cell Infect Microbiol. 2021 Mar 8;11:639658. doi: 10.3389/fcimb.2021.639658. eCollection 2021.  
[Abstract] [PubMed]

Oral Dysbiosis and Inflammation in Parkinson's Disease.  
Fleury V, Zekeridou A, Lazarevic V, Gaïa N, Giannopoulou C, Genton L, Cancela J, Girard M, Goldstein R, Bally JF, Mombelli A, Schrenzel J, Burkhard PR  
J Parkinsons Dis. 2021;11(2):619-631. doi: 10.3233/JPD-202459.  
[Abstract] [PubMed]

Notes:

N/A

Attachments:

N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms <sup>9</sup> 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 (website in French): <http://www.hug-ge.ch/laboratoire-bacteriologie>

1. What is the name of the facility?

**Laboratoires de Diagnostic de l'Institut de Microbiologie (Diagnostic Laboratories of the Institute of Microbiology)**

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

Laboratoires de Diagnostic de l'Institut de Microbiologie, Département de Pathologie et Médecine de Laboratoire, Centre Hospitalier Universitaire Vaudois, Rue du Bugnon 48, CH-1011 Lausanne, Switzerland

N 46° 31' 30.57", E 6° 38' 29.15"

3. Floor area of laboratory areas by containment level:

BL 3: 93 SqM

BL 2: 596 SqM

Total laboratory floor area (SqM):

689

4. The organizational structure of each facility.

(i) Total number of personnel: 19

(ii) Division of personnel:

Military: 0

Civilian: 19

(iii) Division of personnel by category:

Scientists: 5

Engineers: 0

Technicians: 14

Administrative and support staff: 0

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

Bacteriology, mycology, parasitology, virology, biosafety, bioinformatics

(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.

Research	0 %
Development	5 %
Test & Evaluation	10 %
Analysis / Diagnosis	50 %
Education & Training	15 %
Other activities	20 %

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

Research: 0 %

Development: 5 %

Test and evaluation: 10 %

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

Publication in peer-reviewed 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)

Impact of different SARS-CoV-2 assays on laboratory turnaround time.

Marquis B, Opota O, Jatton K, Greub G

Med Microbiol. 2021 May;70(5)

Aequorin as a Useful Calcium-Sensing Reporter in *Candida albicans*.

Sanglard D

J Fungi (Basel). 2021 Apr 20;7(4)

Fecal microbiota transplantation: from the evidence to the reality of the field.

Ballif A, Gerber S, Carrez L, Audry M, Sadeghipour F, Mitouassiou A, Croxatto A, Opota O, Prod'homme G, Henchoz S, Schoepfer A, Cavassini M, Galpérine T

Rev Med Suisse. 2021 Apr 14;17(734):726-731

Implementing SARS-CoV-2 Rapid Antigen Testing in the Emergency Ward of a Swiss University Hospital: The INCREASE Study.

Caruana G, Croxatto A, Kampouri E, Kritikos A, Opota O, Foerster M, Brouillet R, Senn L, Lienhard R, Egli A, Pantaleo G, Carron PN, Greub G

Microorganisms. 2021 Apr 10;9(4)

Recommendations for accurate genotyping of SARS-CoV-2 using amplicon-based sequencing of clinical samples.

Kubik S, Marques AC, Xing X, Silvery J, Bertelli C, De Maio F, Pournaras S, Burr T, Duffourd Y, Siemens H, Alloui C, Song L, Wenger Y, Saitta A, Macheret M, Smith EW, Menu P, Brayer M, Steinmetz LM, Si-Mohammed A, Chuisseu J, Stevens R, Constantoulakis P,

Clin Microbiol Infect. 2021 Apr 1

Navigating the uncertainties of COVID-19 associated aspergillosis (CAPA): A comparison with influenza associated aspergillosis (IAPA).

Lamoth F, Lewis RE, Walsh TJ, Kontoyiannis DP

J Infect Dis. 2021 Mar 26

Invasive aspergillosis in solid organ transplant patients: diagnosis, prophylaxis, treatment, and assessment of response.

Neofytos D, Garcia-Vidal C, Lamoth F, Lichtenstern C, Perrella A, Vehreschild JJ

BMC Infect Dis. 2021 Mar 24;21(1):296

Assessment of the Role of 1,3- $\beta$ -D-Glucan Testing for the Diagnosis of Invasive Fungal Infections in Adults.

Lamoth F, Akan H, Andes D, Cruciani M, Marchetti O, Ostrosky-Zeichner L, Racil Z, Clancy CJ

Clin Infect Dis. 2021 Mar 12;72(Supplement\_2):S102-S108

Guidance on Imaging for Invasive Pulmonary Aspergillosis and Mucormycosis: From the Imaging Working Group for the Revision and Update of the Consensus Definitions of Fungal Disease from the EORTC/MSGERC.

Alexander BD, Lamoth F, Heussel CP, Prokop CS, Desai SR, Morrissey CO, Baddley JW

Clin Infect Dis. 2021 Mar 12;72(Supplement\_2):S79-S88

Conservation of the glycogen metabolism pathway underlines a pivotal function of storage polysaccharides in *Chlamydiae*.

Colpaert M, Kadouche D, Ducatez M, Pillonel T, Kebbi-Beghdadi C, Cenci U, Huang B, Chabi M, Maes E, Coddeville B, Couderc L, Touzet H, Bray F, Tirtiaux C, Ball S, Greub G, Colleoni C

Commun Biol. 2021 Mar 5;4(1):296

Novel ERG11 and TAC1b mutations associated with azole resistance in *Candida auris*.

Li J, Coste AT, Liechti M, Bachmann D, Sanglard D, Lamoth F

Antimicrob Agents Chemother. 2021 Feb 22

Pathogenic Determinants of the Mycobacterium kansasii Complex: An Unsuspected Role for Distributive Conjugal Transfer.

Tagini F, Pillonel T, Bertelli C, Jatou K, Greub G

Microorganisms. 2021 Feb 10;9(2)

Letter on "(1,3)- $\beta$ -D-Glucan-based empirical antifungal interruption in suspected invasive candidiasis: a randomized trial".

Kritikos A, Lamoth F

Crit Care. 2021 Feb 9;25(1):55

Insights in the molecular mechanisms of an azole stress adapted laboratory-generated Aspergillus fumigatus strain.

Aruanno M, Gozel S, Mouyna I, Parker JE, Bachmann D, Flamant P, Coste AT, Sanglard D, Lamoth F

Med Mycol. 2021 Feb 7

Invasive Pulmonary Aspergillosis Goes Viral Again?

Wauters J, Lamoth F, Rijnders BJA, Calandra T

Am J Respir Crit Care Med. 2021 Feb 1;203(3):275-277

Camphor and Eucalyptol-Anticandidal Spectrum, Antivirulence Effect, Efflux Pumps Interference and Cytotoxicity.

Ivanov M, Kannan A, Stojković DS, Glamočlija J, Calhelha RC, Ferreira ICFR, Sanglard D, Soković M

Int J Mol Sci. 2021 Jan 6;22(2)

Future challenges and chances in the diagnosis and management of invasive mould infections in cancer patients.

Vehreschild JJ, Koehler P, Lamoth F, Prattes J, Rieger C, Rijnders BJA, Teschner D

Med Mycol. 2021 Jan 4;59(1):93-101

Notes:

N/A

Attachments:

N/A

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 of Lausanne, are the Regional Competence Center for the primary analysis of samples suspicious of a bioterror-related background. Due to its other diagnostic activities, it is able to cover the whole spectrum of microbiology, namely virology, bacteriology, mycology and parasitology. Bacteriology also includes mycobacteriology, for which the Institute of Microbiology acts as a regional center.

Moreover, in 2017, we obtained the necessary funds for the up-grade and the expansion of our BSL3 level laboratory in the Institute of Microbiology. The construction started in September 2018 and finished in March 2020. During this period all these activities were carried out in the research BSL3 laboratory of our Institute according to the good laboratories practices recommended.

The new BSL3 laboratory stand as the reference BSL3 laboratory of the hospital (CHUV) for the diagnosis and manipulation of BSL3 samples, strains, microorganisms that may be encountered in daily work as well as the samples of the environment for the regional laboratory network.

For further information please visit:

<https://www.chuv.ch/en/microbiologie/imu-home/diagnostics/>

1. What is the name of the facility?

**Medizinische Mikrobiologie (Medical Microbiology)**

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

Medizinische Mikrobiologie, Labormedizin, Luzerner Kantonsspital, Luzerner Kantonsspital Haus 47, Spitalstrasse, CH-6000 Luzern 16, Switzerland

N 47° 3' 32.45", E 8° 18' 1.17"

3. Floor area of laboratory areas by containment level:

BL 2: 716 SqM

BL 3: 62 SqM

Total laboratory floor area (SqM):

778

4. The organizational structure of each facility.

(i) Total number of personnel: 8

(ii) Division of personnel:

Military: 0

Civilian: 8

(iii) Division of personnel by category:

Scientists: 3

Engineers: 0

Technicians: 4

Administrative and support staff: 1

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

Clinical 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.

Research	0 %
Development	0 %
Test & Evaluation	15 %
Analysis / Diagnosis	75 %
Education & Training	10 %
Other activities	0 %

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

Research: 0 %

Development: 0 %

Test and evaluation: 15 %

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

Publication in peer-reviewed journals.

(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)

No publicly available papers or reports published in 2021.

Notes:

N/A

Attachments:

N/A

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

The Department of Medical Microbiology, as part of the Labormedizin, Luzerner Kantonsspital, is accredited (ISO / EN 17025) for clinical bacteriology, mycology, mycobacteriology, parasitology, molecular diagnostics, serology. The current focus of applied research activities is on specific bacteriological / molecular testing topics. In addition, it is the Regional Competence Center for primary analyses of samples suspicious of a bioterror-related background.

For further information please visit (website in German):

<https://www.luks.ch/standorte/standort-luzern/labormedizin>

1. What is the name of the facility?

**Institut für Medizinische Mikrobiologie (Institute of Medical Microbiology)**

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

Institut für Medizinische Mikrobiologie, Medizinische Fakultät, Universität Zürich, Gloriastrasse 28/30, CH-8006 Zürich, Switzerland

N 47° 22' 36.20", E 8° 33' 11.18"

3. Floor area of laboratory areas by containment level:

BL 3: 20 SqM

Total laboratory floor area (SqM):

20

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 (bacteriology / mycology).

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

3

(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.

Research	15 %
Development	15 %
Test & Evaluation	5 %
Analysis / Diagnosis	60 %
Education & Training	5 %
Other activities	0 %

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

Research: 15 %

Development: 15 %

Test and evaluation: 5 %

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

Publication in peer-reviewed open access 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)

High-throughput functional characterization of protein phosphorylation sites in yeast.

Viéitez C, Busby BP, Ochoa D, Mateus A, Memon D, Galardini M, Yildiz U, Trovato M, Jawed A, Geiger AG, Oborská-Oplová M, Potel CM, Vonesch SC, Szu Tu C, Shahrzad M, Stein F, Steinmetz LM, Panse VG, Noh KM, Savitski MM, Typas A, Beltrao P (2021)

Nat Biotechnol: Online ahead of print

Structural insights into the inhibition of glycine reuptake.

Shahsavari A, Stohler P, Bourenkov G, Zimmermann I, Siegrist M, Guba W, Pinard E, Sinning S, Seeger MA, Schneider TR, Dawson RJP, Nissen P (2021)

Nature 591: 677-681

Consensus management recommendations for non-tuberculous mycobacterial pulmonary diseases.

Lange C, Böttger EC, Cambau E, Griffith DE, Guglielmetti L, van Ingen J, Knight SL, Marras TK, Oliver KN, Santin M, Stout JE, Tortoli E, Wagner D, Winthrop K, Daley CL, on behalf of the expert panel group for management recommendations in NTM-PD (2021)

Lancet Infect Dis, accepted for publication

Puf6 primes 60S pre-ribosome nuclear export at low temperature.

Gerhardy S, Oborská-Oplová M, Gillet L, Börner R, van Nues R, Leitner A, Michel E, Petkowski JJ, Granneman S, Sigel RKO, Aebersold R, Panse VG (2021)

Nat Commun 12: 4696

Quorum sensing controls persistence, resuscitation, and virulence of *Legionella* subpopulations in biofilms.  
Personnic N, Striednig B, Hilbi H (2021)  
ISME J 15: 196-210

Invasive aspergillosis due to *Aspergillus* section *Usti*: a multicenter retrospective study.  
Glampedakis E, Cassaing S, Fekkar A, Dannaoui E, Bougnoux ME, Bretagne S, Neofytos D, Schreiber PW, Hennequin C, Morio F, Shadrivova O, Bongomin F, Fernández-Ruiz M, Bellanger AP, Arikan-Akdagli S, Erard V, Aigner M, Paolucci M, Khanna N, Charpentier E, Bonnal C, Brun S, Gabriel F, Riat A, Zbinden R, Le Pape P, Klimko N, Lewis RE, Richardson M, Inkaya AC, Coste AT, Bochud PY, Lamoth F (2021)  
Clin Infect Dis 72: 1379-1385

Quorum sensing governs a transmissible *Legionella* subpopulation at the pathogen vacuole periphery.  
Striednig B, Lanner U, Niggli S, Katic A, Vormittag S, Brülisauer S, Hochstrasser R, Kaech A, Welin A, Flieger A, Ziegler U, Schmidt A, Hilbi H, Personnic N (2021)  
EMBO Rep 22: e52972

Antibacterial activity of apramycin at acidic pH warrants wide therapeutic window in the treatment of complicated urinary tract infections and acute pyelonephritis.  
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Trends of the Epidemiology of Candidemia in Switzerland: A 15-Year FUNGINOS Survey  
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An advanced apralog with increased in-vitro and in-vivo activity toward Gram-negative pathogens and reduced ex-vivo cochleotoxicity.

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Influence of ring size in conformationally restricted ring I analogs of paromomycin on antiribosomal and antibacterial activity

Pirrone M, Hobbie SN, Vasella A, Böttger EC, Crich D (2021)

RSC Med Chem: Online ahead of print

Mycobacterium helveticum sp. nov., a novel slowly growing mycobacterial species associated with granulomatous lesions in adult swine.

Ghielmetti G, Rosato G, Trovato A, Friedel U, Kirchgaessner C, Perroulaz C, Pendl W, Figi R, Schulthess B, Bloemberg GV, Keller PM, Stephan R, Tortoli E (2021)

Int J Syst Evol Microbiol 71: 004615

Synthesis, antibacterial action and ribosome inhibition of deoxyspectinomycins.

Dharuman S, Wilt LA, Liu J, Reeve SM, Thompson CW, Elmore JM, Shcherbakov D, Lee RB, Böttger EC, Lee RE (2021)

J Antibiot 74: 381-396

Mortality from drug-resistant tuberculosis in high-burden countries comparing routine drug susceptibility testing with whole-genome sequencing: a multicentre cohort study.

Züricher K, Reichmuth ML, Ballif M, Loiseau C, Borrell S, Reinhard M, Skrivankova V, Hömke R, Sander P, Avihingsanon A, Abimiku AG, Marcy O, Collantes J, Carter EJ, Wilkinson RJ, Cox H, Yotebieng M, Huebner R, Fenner L, Böttger EC, Gagneux S, Egger M, on behalf of IeDEA (2021)

Lancet Microbe 2: e320-330

Antimicrobial susceptibility patterns of respiratory Gram-negative bacterial isolates from COVID-19 patients in Switzerland.

Gysin M, Acevedo CT, Haldimann K, Bodendoerfer E, Imkamp F, Bulut K, Buehler PK, Brugger SD, Becker K, Hobbie SN (2021)

Ann Clin Microbiol Antimicrob 20: 64

Disseminated Mycobacterium simiae and Mycobacterium avium infection causing an immune reconstitution inflammatory syndrome in a female patient with HIV.

Bachofner JA, Ikenberg K, Schulthess B, Nemeth J (2021)

BMJ Case Rep 14: e241037

A rare case of severe gastroenteritis caused by Aeromonas hydrophila after colectomy in a patient with anti-Hu syndrome: a case report

Greiner M, Anagnostopoulos A, Pohl D, Zbinden R, Zbinden A (2021)

Case Reports BMC Infect Dis 21: 1097

Open wounds and rifampicin therapy are associated with rifampicin resistance among staphylococcal vascular graft/endothelial infections(2021)

Leung YKS, Ledergerber B, Eberhard N, Mestres CA, Rancic Z, Zimmermann A, Zbinden R, Brugger SD, Zinkernagel AS, Hasse B; Vascular Graft Cohort Study (2021)

JAC Antimicrob Resist 3: dlab041

#### Reviews

Bacterial quorum sensing and phenotypic heterogeneity: how the collective shapes the individual.

Striednig B, Hilbi H (2021)

Trends Microbiol: Online ahead of print

Dictyostelium dynamin superfamily GTPases implicated in vesicle trafficking and host-pathogen interactions.

Katic A, Hüsler D, Letourneur F, Hilbi H (2021)

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#### Letters

Rapid identification of CTX-M-type extended-spectrum  $\beta$ -lactamase-producing Enterobacterales from blood cultures using a multiplex lateral flow immunoassay

Walter A, Bodendoerfer E, Kolesnik-Goldmann N, Mancini S (2021)

J Glob Antimicrob Resist 26: 130-132

Genotypic and phenotypic analyses of aac(3) aminoglycoside-resistance gene diversity point to three distinct phenotypes of contemporary clinical relevance

Plattner M, Goyet C, Haldimann K, Gysin M, Juhas M, Becker K, Hobbie SN (2021)

J Glob Antimicrob Resist: Online ahead of print

Notes:

N/A

Attachments:

N/A

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 diagnostics laboratory proficient in bacteriology, mycology and serology. Research focusses on vaccine and antibiotic development, protein structure analysis, host-pathogen interaction (Legionella, Mycobacteria), antibiotic resistance mechanisms and general aspects of translation.

For further information please visit (website in french):

<https://www.imm.uzh.ch/de/francais.html>

1. What is the name of the facility?

**Institut für Medizinische Virologie (Institute of Medical Virology)**

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

Institut für Medizinische Virologie, Medizinische Fakultät, Universität Zürich, Winterthurerstrasse 190, CH-8057 Zürich, Switzerland

N 47° 23' 52.08", E 8° 33' 01.92"

3. Floor area of laboratory areas by containment level:

BL 3: 25 SqM

*Of note, the Institute of Medical Virology holds a BSL4 license for diagnostic purposes only, as follows:  
“Inactivation or extraction of environmental samples or samples with potentially highly pathogenic viruses  
for diagnostic purposes”.*

Total laboratory floor area (SqM):

25

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.

Research	0 %
Development	0 %
Test & Evaluation	10 %
Analysis / Diagnosis	50 %
Education & Training	10 %
Other activities	30 % (costs for maintenance and amortization)

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

Research: 0 %

Development: 0 %

Test and evaluation: 10 %

(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)

Gabrielaite, Migle; Bennedbæk, Marc; Zucco, Adrian G; Ekenberg, Christina; Murray, Daniel D; Kan, Virginia L; Touloumi, Giota; Vandekerckhove, Linos; Turner, Dan; Neaton, James; Lane, H Clifford; Safo, Sandra; Arenas-Pinto, Alejandro; Polizzotto, Mark N; Günthard, Huldrych F; Lundgren, Jens D; Marvig, Rasmus L (2021). Human immunotypes impose selection on viral genotypes through viral epitope specificity. *Journal of Infectious Diseases*, 224(12):2053-2063.

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Notes:

N/A

Attachments:

N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms <sup>9</sup> 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 diagnostics laboratory.

For further information please visit:

<https://www.virology.uzh.ch/en.html>

1. What is the name of the facility?

**Kantonales Laboratorium Basel-Stadt (Cantonal Laboratory of Basel-Stadt)**

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

Kantonales Laboratorium Basel-Stadt, Bereich Gesundheitsschutz, Gesundheitsdepartement des Kantons Basel-Stadt, Kannenfeldstrasse 2, CH-4056 Basel, Switzerland

N 47° 33' 43.48", E 7° 34' 26.85"

3. Floor area of laboratory areas by containment level:

BL 2: 14 SqM

BL 3: 36 SqM

Total laboratory floor area (SqM):

50

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: 2

Engineers: 0

Technicians: 2

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.

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

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

Research: 0 %

Development: 15 %

Test and evaluation: 40 %

(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)

No publicly available papers or reports published in the reporting period.

Notes:

N/A

Attachments:

N/A

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.

The Cantonal Laboratory of Basel-Stadt has been co-author for the "Chemical Inactivation of Organisms in Liquids - Guidelines for the chemical inactivation of organisms in liquid cultures or supernatants with proof of efficacy and safe disposal" and is working out specific SOP for chemical inactivation of microorganisms atn. Federal Office of Public Health FOPH.

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 (website in German):

<https://www.kantonslabor.bs.ch/>

1. What is the name of the facility?

**Istituto Microbiologia (Institute of Microbiology)**

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

Istituto Microbiologia, Stabile E4050 Dipartimento Ambiente Costruzioni e Design, Scuola Universitaria Professionale della Svizzera Italiana, Via Mirasole 22A, CH-6500 Bellinzona, Switzerland

N46° 11' 53.50", E9° 1' 10.25"

3. Floor area of laboratory areas by containment level:

BL 2: 185 SqM

BL 3: 38 SqM

Total laboratory floor area (SqM):

223

4. The organizational structure of each facility.

(i) Total number of personnel: 6

(ii) Division of personnel:

Military: 0

Civilian: 6

(iii) Division of personnel by category:

Scientists: 5

Engineers: 0

Technicians: 1

Administrative and support staff: 0

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

Bacteriology, mycology, molecular microbiology, microbial ecology, entomology, vector biology.

(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.

Research	10 %
Development	10 %
Test & Evaluation	30 %
Analysis / Diagnosis	30 %
Education & Training	5 %
Other activities	15 % (administrative and maintenance costs)

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

Research: 10 %  
 Development: 10 %  
 Test and evaluation: 30 %

(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)

Ravasi D., Parrondo Monton D., Tanadini M., Flacio E. (2021) Effectiveness of integrated *Aedes albopictus* management in southern Switzerland. *Parasites and Vectors* 14, 405. <https://doi.org/10.1186/s13071-021-04903-2>

Buetti-Dinh A., Ruinelli M., Czerski D., Scapozza C., Martignier A., Roman S., Caminada A., Tonolla M. (2021) Geochemical and metagenomics study of a metalrich, green-turquoise-coloured stream in the southern Swiss Alps. *PLoS ONE* 16(3): e0248877. doi: 10.1371/journal.pone.0248877

Philippi, M., Kitzinger, K., Berg, J.S., Bernhard Tschitschko, Abiel T. Kidane, Sten Littmann, Hannah K. Marchant, Nicola Storelli, Lenny H. E. Winkel, Carsten J. Schubert, Wiebke Mohr & Marcel M. M. Kuypers (2021) Purple sulfur bacteria fix N<sub>2</sub> via molybdenum-nitrogenase in a low molybdenum Proterozoic ocean analogue. *Nat Commun* 12, 4774. <https://doi.org/10.1038/s41467-021-25000-z>

Di Nezio F., Beney C., Roman S., Danza F., Buetti-Dinh A., Tonolla M., Storelli N. (2021) Anoxygenic photo- and chemosynthesis of phototrophic sulfur bacteria from an alpine meromictic lake, *FEMS Microbiology Ecology*. fiab010, <https://doi.org/10.1093/femsec/fiab010>.

Kubacki J., Hardmeier I., Qi W., Flacio E., Tonolla M., Fraefel C. (2021) Complete Genome Sequence of a Rhabdovirus Strain from *Culex* Mosquitos Collected in Southern Switzerland. *Microbiology Resource Announcements* 10 (1)\_e01234-20.

Notes:

N/A

Attachments:

N/A

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

The Istituto Microbiologia is the center of reference in the field of microbiology south of the Alps. Aspects of public health, environmental hygiene, microbial ecology and biotechnology converge in a unified vision of microbiology that considers human, animal and environmental health as a whole in a larger concept of "one health". The Istituto Microbiologia is the Regional Competence Center South of Alps for the primary analysis of samples suspicious of a bioterror-related background.

For further information please visit (website in Italian): <http://www.supsi.ch/im>



## **Confidence-Building Measure "B"**

### **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.

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.

## Form B

### Information on outbreaks of infectious diseases and similar occurrences, that seem to deviate from the normal pattern<sup>11</sup>

#### Human Diseases

1. Time of cognizance of the outbreak:

N/A

2. Location and approximate area affected:

N/A

N/A

3. Type of disease/intoxication:

N/A

4. Suspected source of disease/intoxication:

N/A

5. Possible causative agent(s):

N/A

6. Main characteristics of systems:

N/A

7. Detailed symptoms, when applicable

N/A

- Respiratory:

N/A

- Circulatory:

N/A

- Neurological/behavioural:

N/A

- Intestinal:

N/A

- Dermatological:

N/A

- Nephrological:

N/A

- Other:

N/A

8. Deviation(s) from the normal pattern as regards

- Type:

N/A

- Development:

N/A

- Place of occurrence:

N/A

- Time of occurrence:

- Symptoms:

N/A

- Virulence pattern:

N/A

- Drug resistance pattern:

N/A

- Agent(s) difficult to diagnose:

N/A

- Presence of unusual vectors:

N/A

- Other:

N/A

9. Approximate number of primary cases:

N/A

10. Approximate number of total cases:

N/A

11. Number of deaths:

12. Development of the outbreak:

13. Measures taken:

N/A

Notes:

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 Declaration of Observations of Communicable Human Diseases (*RS 818.101.126 Ordonnance du DFI du 1 décembre 2015 sur la déclaration d'observations en rapport avec les maladies transmissibles de l'homme*), which is based on the Federal Act on the Control of Communicable Human Diseases (*RS 818.101 Loi fédérale du 28 septembre 2012 sur la lutte contre les maladies transmissibles de l'homme*). Every medical practitioner and laboratory is obliged to report the occurrence or identification of certain notifiable diseases. The current situation is accessible online and data is transmitted to the World Health Organization (WHO):

<https://www.bag.admin.ch/bag/fr/home/zahlen-und-statistiken/zahlen-zu-infektionskrankheiten/meldepflichtige-infektionskrankheiten---woechentliche-fallzahlen.html>

Updated data on the situation concerning the SARS-CoV-2/COVID-19 pandemic in Switzerland can be found here:

<https://www.covid19.admin.ch/en/overview>

Attachments:

N/A

**Animal diseases**

1. Time of cognizance of the outbreak:

N/A

2. Location and approximate area affected:

N/A

N/A

3. Type of disease/intoxication:

N/A

4. Suspected source of disease/intoxication:

N/A

5. Possible causative agent(s):

N/A

6. Main characteristics of systems:

N/A

7. Detailed symptoms, when applicable

N/A

- Respiratory:

N/A

- Circulatory:

N/A

- Neurological/behavioural:

N/A

- Intestinal:

N/A

- Dermatological:

N/A

- Nephrological:

N/A

- Other:

N/A

8. Deviation(s) from the normal pattern as regards

- Type:

N/A

- Development:

N/A

- Place of occurrence:

N/A

- Time of occurrence:

- Symptoms:

N/A

- Virulence pattern:

N/A

- Drug resistance pattern:

N/A

- Agent(s) difficult to diagnose:

N/A

- Presence of unusual vectors:

N/A

- Other:

N/A

9. Approximate number of primary cases:

N/A

10. Approximate number of total cases:

N/A

11. Number of deaths:

12. Development of the outbreak:

13. Measures taken:

N/A

Notes:

The Swiss Federal Food Safety and Veterinary Office (FSVO) 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 FSVO which in turn is responsible for the reporting to the World Organization for Animal Health (OIE). The current situation is accessible online:

<https://www.infosm.blv.admin.ch/bulletin>

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

Attachments:

N/A

## **Plant diseases and pests**

1. Time of cognizance of the outbreak:

N/A

2. Location and approximate area affected:

N/A

N/A

3. Type of disease/intoxication:

N/A

4. Suspected source of disease/intoxication:

N/A

5. Possible causative agent(s):

N/A

6. Main characteristics of systems:

N/A

7. Detailed symptoms, when applicable

N/A

- Respiratory:

N/A

- Circulatory:

N/A

- Neurological/behavioural:

N/A

- Intestinal:

N/A

- Dermatological:

N/A

- Nephrological:

N/A

- Other:

N/A

8. Deviation(s) from the normal pattern as regards

- Type:

N/A

- Development:

N/A

- Place of occurrence:

N/A

- Time of occurrence:

- Symptoms:

N/A

- Virulence pattern:

N/A

- Drug resistance pattern:

N/A

- Agent(s) difficult to diagnose:

N/A

- Presence of unusual vectors:

N/A

- Other:

N/A

9. Approximate number of primary cases:

N/A

10. Approximate number of total cases:

N/A

11. Number of deaths:

12. Development of the outbreak:

13. Measures taken:

N/A

Notes:

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 31 octobre 2018 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 in terms of plant diseases and pests that occurred during the reporting period is provided in the form of short descriptions of notifications made by the National Plant Protection Organisation of Switzerland to the EU Commission by means of the EUROPHYT-Outbreak system as follows:

Title: First Presence (confirmed) of *Neoleucinodes elegantalis* in SWITZERLAND (Canton of Bern)

Description: A single individual of *Neoleucinodes elegantalis* (adult insect) was found in a private household.

01 Pest: *Neoleucinodes elegantalis*

Infested Plant/Material: Single adult insect found in a private household

EPPO Reporting: <https://gd.eppo.int/reporting/article-6973>

Title: First Presence (confirmed) of *Lixus juncii* in SWITZERLAND (Vaud)  
02 Description: *Lixus juncii* was first found in a sugarbeet field in one location in September 2019. Its presence has been confirmed in the same area in 2020, as well as in two additional places neighboring the first one.  
Pest: *Lixus juncii*

Title: Update no 4. First Presence (confirmed) of *Popillia japonica* in SWITZERLAND (Stabio)  
Description: In July 2020, for the first time, adults of *P. japonica* were found in high numbers in two different vineyards (*Vitis vinifera*) directly on plants (as well as in traps) in the municipality of Genestrerio-Mendrisio  
03 (Canton of Ticino).  
Pest: *Popillia japonica*  
Infested Plant/Material: *Vitis vinifera*  
EPP0 Reporting: <https://gd.eppo.int/reporting/article-7043>

Title: Closing\_Update no 3. First Finding (confirmed) of *Anoplophora glabripennis* in SWITZERLAND (Winterthur)  
04 Description: ALB is eradicated in CH since 2019  
Pest: *Anoplophora glabripennis*

Title: First Presence (confirmed) of *Rhizoecus hibisci* in SWITZERLAND (Nordwestschweiz)  
Description: Message from a EU-member state, that about 50 Callistemon plants (probably infested with *Rhizoecus hibisci*) were imported to Switzerland in March 2021.  
05 Pest: *Rhizoecus hibisci*  
Infested Plant/Material: Callistemon plants  
EPP0 Reporting: <https://gd.eppo.int/reporting/article-7066>

Title: Presence (confirmed) of *Pseudomonas syringae* pv. *actinidiae* in SWITZERLAND (Thurgau)  
Description: *Pseudomonas syringae* pv. *actinidiae* was found on Actinidia plants in a nursery in Western  
06 Switzerland. The concerned production site has been placed under quarantine.  
Pest: *Pseudomonas syringae* pv. *Actinidiae*  
Infested Plant/Material: Actinidia plants

Title: Presence (confirmed) of *Popillia japonica* in SWITZERLAND (Basel-Stadt)  
Description: One adult specimen (male) was caught in a pheromone trap in the north of Switzerland. It is  
07 assumed that it was transported there as a hitch-hiker. Additional traps were set up and visual inspections are being carried out.  
Pest: *Popillia japonica*  
Infested Plant/Material: Caught in a bait trap

Title: First Presence (confirmed) of Tomato brown rugose fruit virus in SWITZERLAND (Ostschweiz)  
Description: For the first time ToBRFV has been found in Switzerland at an indoor production site of tomato  
08 fruits.  
Pest: ToBRFV  
Infested Plant/Material: Tomato fruits  
EPP0 Reporting: <https://gd.eppo.int/reporting/article-7117>



Title: First Presence (confirmed) of *Eotetranychus lewisi* in SWITZERLAND (Zürich)

09 Description: An outbreak of *Eotetranychus lewisi* was found in a greenhouse of a producer of *Euphorbia pulcherrima* plants.

Pest: *Eotetranychus lewisi*

Infested Plant/Material: *Euphorbia pulcherrima*

EPPPO Reporting: <https://gd.eppo.int/reporting/article-7117>

Title: Presence (confirmed) of *Meloidogyne chitwoodi* in SWITZERLAND (Bern)

10 Description: *Meloidogyne chitwoodi* was found in a field in Switzerland, eradication measures are taken

Pest: *Meloidogyne chitwoodi*

Infested Plant/Material: Field, soil

Title: Presence (confirmed) of *Eotetranychus lewisi* in SWITZERLAND (Schweiz/Suisse/Svizzera)

11 Description: An outbreak of *Eotetranychus lewisi* was found on *Euphorbia pulcherrima* plants imported from a Member State. The infested plants were destroyed by burning.

Pest: *Eotetranychus lewisi*

Infested Plant/Material: *Euphorbia pulcherrima*

Attachments:

N/A

# Confidence-Building Measure "C"

## 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.

### Comments:

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: <https://www.springer.com/birkhauser>

EMH Schweizerischer Ärzteverlag AG, MuttENZ: <https://www.emh.ch/en/read>

Frontiers Media SA, Lausanne: <https://www.frontiersin.org/>

Inderscience Publishers, Genève: <https://www.inderscience.com/>

MDPI AG, Basel: <https://www.mdpi.com/>

S. Karger AG, Basel: <https://www.karger.com/>

SciPress Ltd., Bäch: <https://www.scipress.com/>

WHO Press, Genève: <https://apps.who.int/bookorders>

## **Confidence-Building Measure "D"**

(Deleted)

# Confidence-Building Measure "E"

## 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.

## Form E

### Declaration of legislation, regulations and other measures

<i>Relating to</i>	<i>Legislation</i>	<i>Regulations</i>	<i>Other measures<sup>12</sup></i>	<i>Amended since last year</i>
(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	yes	yes	yes
(b) Exports of micro-organisms <sup>13</sup> and toxins	yes	yes	yes	yes
(c) Imports of micro-organisms <sup>13</sup> and toxins	yes	yes	yes	yes
(d) Biosafety <sup>14</sup> and biosecurity <sup>15</sup>	yes	yes	yes	yes

Additional information to Form E:

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*)

[https://www.fedlex.admin.ch/eli/cc/1976/1438\\_1439\\_1439/fr](https://www.fedlex.admin.ch/eli/cc/1976/1438_1439_1439/fr)

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*)

[https://www.fedlex.admin.ch/eli/cc/48/375\\_387\\_405/fr](https://www.fedlex.admin.ch/eli/cc/48/375_387_405/fr)

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

Federal Constitution of the Swiss Confederation (*RS 101 Constitution fédérale de la Confédération suisse du 18 avril 1999*)

<https://www.fedlex.admin.ch/eli/cc/1999/404/fr>

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*)

[https://www.fedlex.admin.ch/eli/cc/1998/1546\\_1546\\_1546/fr](https://www.fedlex.admin.ch/eli/cc/1998/1546_1546_1546/fr)

Ordinance on the Intelligence Service (*RS 121.1 Ordonnance du 16 août 2017 sur le Service de renseignement*)

<https://www.fedlex.admin.ch/eli/cc/2017/495/fr>

Ordinance on Information and Storage Systems of the Intelligence Service of the Confederation (*RS 121.2 Ordonnance du 16 août 2017 sur les systèmes d'information et les systèmes de stockage de données du Service de renseignement de la Confédération*)

<https://www.fedlex.admin.ch/eli/cc/2017/496/fr>

Federal Act on the Prohibition of « al-Qaeda » and « Islamic State » Groups and related Organizations (*RS 122 Loi fédérale du 12 décembre 2014 interdisant les groupes « Al-Qaïda » et « État islamique » et les organisations apparentées*)

<https://www.fedlex.admin.ch/eli/cc/2014/764/fr>

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*)

[https://www.fedlex.admin.ch/eli/cc/1997/6\\_6\\_6/fr](https://www.fedlex.admin.ch/eli/cc/1997/6_6_6/fr)

*Establishes the roles of the Federal Commission of Experts for Biological Security to ensure the protection of the Swiss population against transmissible diseases, the health of workers, and the protection of animals and plants and their environments.*

Swiss Criminal Code (*RS 311.0 Code pénal suisse du 21 décembre 1937*)

[https://www.fedlex.admin.ch/eli/cc/54/757\\_781\\_799/fr](https://www.fedlex.admin.ch/eli/cc/54/757_781_799/fr)

Swiss Code of Criminal Procedure (*RS 312.0 Code de procédure pénale suisse du 5 octobre 2007*)

<https://www.fedlex.admin.ch/eli/cc/2010/267/fr>

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*)

<https://www.fedlex.admin.ch/eli/cc/2004/729/fr>

Military Criminal Code (*RS 321.0 Code pénal militaire du 13 juin 1927*)

[https://www.fedlex.admin.ch/eli/cc/43/359\\_375\\_369/fr](https://www.fedlex.admin.ch/eli/cc/43/359_375_369/fr)

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*)

[https://www.fedlex.admin.ch/eli/cc/1982/846\\_846\\_846/fr](https://www.fedlex.admin.ch/eli/cc/1982/846_846_846/fr)

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*)

[https://www.fedlex.admin.ch/eli/cc/1995/875\\_875\\_875/fr](https://www.fedlex.admin.ch/eli/cc/1995/875_875_875/fr)

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*)

<https://www.fedlex.admin.ch/eli/cc/2008/697/fr>

Ordinance on the National Central Bureau Interpol Bern ( *RS 366.1 Ordonnance du 21 juin 2013 concernant le Bureau central national Interpol Bern*)

<https://www.fedlex.admin.ch/eli/cc/2013/466/fr>

Ordinance on the Coordinated Medical Service ( *RS 501.31 Ordonnance du 27 avril 2005 sur le Service sanitaire coordonné*)

<https://www.fedlex.admin.ch/eli/cc/2005/345/fr>

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*)

[https://www.fedlex.admin.ch/eli/cc/1995/4093\\_4093\\_4093/fr](https://www.fedlex.admin.ch/eli/cc/1995/4093_4093_4093/fr)

Ordinance on Measures Taken by the Army against Human and Animal Epidemics ( *RS 510.35 Ordonnance du 2. octobre 1955 concernant les mesures à prendre par l'armée contre les épidémies et épizooties*)

[https://www.fedlex.admin.ch/eli/cc/1955/863\\_885\\_893/fr](https://www.fedlex.admin.ch/eli/cc/1955/863_885_893/fr)

Ordinance on Domestic Disaster Management by the Army ( *RS 513.75 Ordonnance du 21 novembre 2018 sur l'aide militaire en cas de catastrophe dans le pays*)

<https://www.fedlex.admin.ch/eli/cc/2018/731/fr>

Federal Act on War Material ( *RS 514.51 Loi fédérale du 13 décembre 1996 sur le matériel de guerre* )

[https://www.fedlex.admin.ch/eli/cc/1998/794\\_794\\_794/fr](https://www.fedlex.admin.ch/eli/cc/1998/794_794_794/fr)

*Prohibits the development, production, indirect transfer, acquisition, import, export, transit and stockpiling of nuclear, biological or chemical weapons under Article 7. It prohibits any action committed by any person who has any connection to the acquisition of WMD. This article also applies to offences committed abroad if they are in violation of international law, which is binding in Switzerland.*

Ordinance on War Material ( *RS 514.511 Ordonnance du 25 février 1998 sur le matériel de guerre* )

[https://www.fedlex.admin.ch/eli/cc/1998/808\\_808\\_808/fr](https://www.fedlex.admin.ch/eli/cc/1998/808_808_808/fr)

*Regulates the initial authorisation and the specific authorisations that are required for the manufacture, the brokerage, the import, the export and the transit of war materials, as well as the conclusion of contracts to transfer incorporeal property, including know-how and the concession of related rights. Applies in Switzerland customs area, to Swiss customs warehouses and Swiss customs enclaves.*

Federal Act on the Protection of the Population and Civil Protection ( *RS 520.1 Loi fédérale du 20 décembre 2019 sur la protection de la population et sur la protection civile*)

<https://www.fedlex.admin.ch/eli/cc/2020/887/fr>

Ordinance on the Civil Protection ( *RS 520.12 Ordonnance du 11 novembre 2020 sur la protection de la population*)

<https://www.fedlex.admin.ch/eli/cc/2020/889/fr>

Ordinance on the Federal Staff Civil Protection ( *RS 520.17 Ordonnance du 2 mars 2018 sur l'État-major fédéral Protection de la population*)

<https://www.fedlex.admin.ch/eli/cc/2018/162/fr>

Federal Act on Customs ( *RS 631.0 Loi du 18 mars 2005 sur les douanes* )

<https://www.fedlex.admin.ch/eli/cc/2007/249/fr>

Ordinance on Customs ( *RS 631.01 Ordonnance du 1er novembre 2006 sur les douanes* )

<https://www.fedlex.admin.ch/eli/cc/2007/250/fr>

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*)

<https://www.fedlex.admin.ch/eli/cc/2002/685/fr>

*Regulates the transport of dangerous materials by automobiles or other mediums of transport on roads open to those same vehicles.*

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*)

<https://www.fedlex.admin.ch/eli/cc/2001/268/fr>

*Determines the appointment, tasks, training and examination of persons charged with reducing risks to people, property and the environment during transportation of hazardous goods or packaging operations, shipment or loading and unloading associated with this transport.*

Ordinance on the Transportation of Hazardous Goods by Railway and Aerial Railway ( *RS 742.412 Ordonnance du 31 octobre 2012 sur le transport de marchandises dangereuses par chemin de fer et par installation à câbles*)

<https://www.fedlex.admin.ch/eli/cc/2012/785/fr>

Federal Act on Surveillance of Postal Mail and Telecommunications ( *RS 780.1 Loi fédérale du 18 mars 2016 sur la surveillance de la correspondance par poste et télécommunication*)

<https://www.fedlex.admin.ch/eli/cc/2018/31/fr>

Ordinance on Surveillance of Postal Mail and Telecommunications ( *RS 780.11 Ordonnance du 15 novembre 2017 sur la surveillance de la correspondance par poste et télécommunication*)

<https://www.fedlex.admin.ch/eli/cc/2018/32/fr>

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*)

<https://www.fedlex.admin.ch/eli/cc/2007/283/fr>

Ordinance on Clinical Trials with Therapeutic Products ( *RS 810.305 Ordonnance du 20 septembre 2013 sur les essais cliniques dans le cadre de la recherche sur l'être humain*)

<https://www.fedlex.admin.ch/eli/cc/2013/643/fr>

Ordinance on Pharmaceuticals ( *RS 812.212.21 Ordonnance du 21 septembre 2018 sur les médicaments* )

<https://www.fedlex.admin.ch/eli/cc/2018/588/fr>

*Regulates: a. authorization of medicines on the market ready for use, b. authorization processes of surface treatment of labile blood products, c. classification criteria for categories of delivery, d. distribution restrictions, e. authorization of mail order drugs, f. market surveillance and vigilance.*

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*)

<https://www.fedlex.admin.ch/eli/cc/2004/724/fr>

*Protects the lives and health of human beings from the harmful effects of substances or preparations.*

Ordinance on Good Laboratory Practice ( *RS 813.112.1 Ordonnance du 18 mai 2005 sur les bonnes pratiques de laboratoire*)

<https://www.fedlex.admin.ch/eli/cc/2005/467/fr>

*Fixes the principles of good laboratory practices, guarantees the quality of studies and regulates the verification of these requirements.*

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*)

<https://www.fedlex.admin.ch/eli/cc/2005/468/fr>

*Regulates marketing of biocidal products and their active substances, particularly the various types and licensing procedures, the use of data from previous requests for the benefit of new applicants, and the classification of packaging, labelling and safety data sheets.*

Federal Act on the Protection of the Environment ( *RS 814.01 Loi fédérale du 7 octobre 1983 sur la protection de l'environnement*)

[https://www.fedlex.admin.ch/eli/cc/1984/1122\\_1122\\_1122/fr](https://www.fedlex.admin.ch/eli/cc/1984/1122_1122_1122/fr)

Ordinance on the Protection against Major Accidents ( *RS 814.012 Ordonnance du 27 février 1991 sur la protection contre les accidents majeurs*)

[https://www.fedlex.admin.ch/eli/cc/1991/748\\_748\\_748/fr](https://www.fedlex.admin.ch/eli/cc/1991/748_748_748/fr)

*Covers activities involving the contained use of genetically modified organisms and pathogenic organisms in laboratories, production facilities, greenhouses and premises housing animals.*

Ordinance on Waste Management ( *RS 814.600 Ordonnance du 4 décembre 2015 sur la limitation et l'élimination des déchets*)

<https://www.fedlex.admin.ch/eli/cc/2015/891/fr>

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*)

<https://www.fedlex.admin.ch/eli/cc/2003/705/fr>

*Protects humans, animals and the environment against the abuse of genetic engineering, and ensures that applications of genetic engineering serve humans, animals and the environment.*

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*)

<https://www.fedlex.admin.ch/eli/cc/2008/614/fr>

*Protects humans, animals and the environment, as well as biodiversity and sustainable use of its components against the dangers and outrages associated with the use of organisms, their metabolites and their waste.*

Ordinance on the Contained Use of Organisms ( *RS 814.912 Ordonnance du 9 mai 2012 sur l'utilisation des organismes en milieu confiné*)

<https://www.fedlex.admin.ch/eli/cc/2012/329/fr>

*Protects people and the environment and in particular communities of animals and plants and their habitats, against harmful effects or nuisances of the contained use of organisms. Contributes to the maintenance of biodiversity and soil fertility. Regulates the contained use of organisms, in particular genetically modified or pathogenic organisms. The revision of the ordinance that entered into force on 1 January 2020 introduces a definition of misuse and explicitly addresses biosecurity.*

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*)

<https://www.fedlex.admin.ch/eli/cc/2004/726/fr>

*Regulates the transborder transport of GMOs. Does not apply to medicines for human use, which contain GMOs.*

Federal Act on Foods and Commodities ( *RS 817.0 Loi fédérale du 20 juin 2014 sur les denrées alimentaires et les objets usuels*)

<https://www.fedlex.admin.ch/eli/cc/2017/62/fr>

Ordinance on Foods and Commodities ( *RS 817.02 Ordonnance du 16 décembre 2016 sur les denrées alimentaires et les objets usuels*)

<https://www.fedlex.admin.ch/eli/cc/2017/63/fr>



Ordinance on Maximum Levels of Pesticide Residues Present in or on Products of Vegetable or Animal Origin (*RS 817.021.23 Ordonnance du DFI du 16 décembre 2016 sur les limites maximales applicables aux résidus de pesticides présents dans ou sur les produits d'origine végétale ou animale*)

<https://www.fedlex.admin.ch/eli/cc/2017/151/fr>

Ordinance on Genetically Modified Foods (*RS 817.022.51 Ordonnance du DFI du 27 mai 2020 sur les denrées alimentaires génétiquement modifiées*)

<https://www.fedlex.admin.ch/eli/cc/2020/456/fr>

Ordinance on Hygiene when Handling Food (*RS 817.024.1 Ordonnance du DFI du 16 décembre 2016 sur l'hygiène dans les activités liées aux denrées alimentaires*)

<https://www.fedlex.admin.ch/eli/cc/2017/183/fr>

Ordinance on the Enforcement of the Legislation on Foods (*RS 817.042 Ordonnance du DFI du 27 mai 2020 sur l'exécution de la législation sur les denrées alimentaires*)

<https://www.fedlex.admin.ch/eli/cc/2020/460/fr>

Ordinance on Animal Slaughter and Meat Control (*RS 817.190 Ordonnance du 16 décembre 2016 concernant l'abattage d'animaux et le contrôle des viandes*)

<https://www.fedlex.admin.ch/eli/cc/2017/66/fr>

Ordinance on Animal Slaughter Hygiene (*RS 817.190.1 Ordonnance du DFI du 23 novembre 2005 concernant l'hygiène lors de l'abattage d'animaux*)

<https://www.fedlex.admin.ch/eli/cc/2005/816/fr>

Federal Act on the Control of Communicable Human Diseases (*RS 818.101 Loi fédérale du 28 septembre 2012 sur la lutte contre les maladies transmissibles de l'homme*)

<https://www.fedlex.admin.ch/eli/cc/2015/297/fr>

*Regulates fight against diseases transmissible to man by stating that the Confederation and the cantons take the necessary measures, including biosafety precautions, to protect human beings against pathogens including those genetically modified. Regulates identification of laboratories through permits delivered by the Swiss Institute of Therapeutic Products. Regulates the trade in pathogenic agents and requires an authorisation from every person disseminating pathogens for research or commerce. Entitles the Federal Council to regulate the transport, importation, exportation and the transit of pathogens, to limit or to ban the use of certain pathogens, to fix the conditions for persons using pathogens. Outlines the provisions for quarantine, vaccination, and disease surveillance and reporting requirements. Provides for imprisonment or fines anyone who intentionally or by negligence does not respect the prescriptions of the Federal Act.*

Ordinance on the Control of Communicable Human Diseases (*RS 818.101.1 Ordonnance du 29 avril 2015 sur la lutte contre les maladies transmissibles de l'homme*)

<https://www.fedlex.admin.ch/eli/cc/2015/298/fr>

Ordinance on the Declaration of Observations of Communicable Human Diseases (*RS 818.101.126 Ordonnance du DFI du 1 décembre 2015 sur la déclaration d'observations en rapport avec les maladies transmissibles de l'homme*)

<https://www.fedlex.admin.ch/eli/cc/2015/892/fr>

Ordinance on Microbiological Laboratories (*RS 818.101.32 Ordonnance du 29 avril 2015 sur les laboratoires de microbiologie*)

<https://www.fedlex.admin.ch/eli/cc/2015/299/fr>

Ordinance Relating to the Act of Labour (*RS 822.114 Ordonnance 4 du 18 août 1993 relative à la loi sur le travail*)

[https://www.fedlex.admin.ch/eli/cc/1993/2564\\_2564\\_2564/fr](https://www.fedlex.admin.ch/eli/cc/1993/2564_2564_2564/fr)

Ordinance on the Protection of Workforce against Microbiological Risks ( RS 832.321 Ordonnance du 25 août 1999 sur la protection des travailleurs contre les risques liés aux micro-organismes)

<https://www.fedlex.admin.ch/eli/cc/1999/445/fr>

*Defines micro-organisms and genetically modified micro-organisms and techniques for genetic modification. Requires the regular identification and evaluation of the risks to which workers are exposed and the notification of the “Bureau de Biotechnologie de la Confédération” by employers. Defines general security measures for the protection of the workers by employers. Covers activities involving the contained use of genetically modified organisms and pathogenic organisms in laboratories, production facilities, greenhouses and premises housing animals.*

Federal Act on Agriculture (RS 910.1 Loi fédérale du 29 avril 1998 sur l’agriculture )

[https://www.fedlex.admin.ch/eli/cc/1998/3033\\_3033\\_3033/fr](https://www.fedlex.admin.ch/eli/cc/1998/3033_3033_3033/fr)

Ordinance on the Coordination of Controls on Agricultural Farms ( RS 910.15 Ordonnance du 31 octobre 2018 sur la coordination des contrôles dans les exploitations agricoles)

<https://www.fedlex.admin.ch/eli/cc/2018/673/fr>

Ordinance on Primary Production (RS 916.020 Ordonnance du 23 novembre 2005 sur la production primaire )

<https://www.fedlex.admin.ch/eli/cc/2005/752/fr>

Ordinance on the Release of Phytopharmaceutical Products ( RS 916.161 Ordonnance du 12 mai 2010 sur la mise en circulation des produits phytosanitaires)

<https://www.fedlex.admin.ch/eli/cc/2010/340/fr>

*Ensures that plant protection products lend themselves well in their intended use and as those are used in accordance with the requirements preventing unacceptable side effects on the health of humans, animals and the environment.*

Ordinance on Plant Protection (RS 916.20 Ordonnance du 31 octobre 2018 sur la protection des végétaux contre les organismes nuisibles particulièrement dangereux)

<https://www.fedlex.admin.ch/eli/cc/2018/682/fr>

*Protects plants of all sorts against the nuisances of dangerous organisms, and protects agriculture and horticulture fields from the same organisms.*

Ordinance on the Control of Milk ( RS 916.351.0 Ordonnance du 20 octobre 2010 sur le contrôle du lait )

<https://www.fedlex.admin.ch/eli/cc/2010/713/fr>

Ordinance on the Milk Production Hygiene (RS 916.351.021.1 Ordonnance du DFI du 23 novembre 2005 réglant l’hygiène dans la production laitière)

<https://www.fedlex.admin.ch/eli/cc/2005/824/fr>

Federal Act on Animal Diseases (RS 916.40 Loi du 1er juillet 1966 sur les épizooties )

[https://www.fedlex.admin.ch/eli/cc/1966/1565\\_1621\\_1604/fr](https://www.fedlex.admin.ch/eli/cc/1966/1565_1621_1604/fr)

Ordinance on the Control of Animal Diseases ( RS 916.401 Ordonnance du 27 juin 1995 sur les épizooties )

[https://www.fedlex.admin.ch/eli/cc/1995/3716\\_3716\\_3716/fr](https://www.fedlex.admin.ch/eli/cc/1995/3716_3716_3716/fr)

*Designates new contagious animal diseases and defines the measures of control of and the organization of the fight against animal diseases, as well as the compensation of animal keepers.*

Ordinance on the Disposal of Animal Side Products ( RS 916.441.22 Ordonnance du 25 mai 2011 concernant l’élimination des sous-produits animaux)

<https://www.fedlex.admin.ch/eli/cc/2011/372/fr>

*Ensures that animal by-products do not endanger human and animal health and do not harm the environment. Allows as much as possible the recovery of animal by-products. Ensures that the infrastructure for the disposal of animal by-products is available.*

Ordinance on Import, Transit and Export of Animals and Animal Products Exchanged with Third Countries ( RS 916.443.10 Ordonnance du 18 novembre 2015 réglant les échanges d'importation, de transit et d'exportation d'animaux et de produits animaux avec les pays tiers)

<https://www.fedlex.admin.ch/eli/cc/2015/843/fr>

*Regulates the import, transit and export of animals, animal by-products and animal products.*

Ordinance on Import, Transit and Export of Animals and Animal Products Exchanged with EU Member States, Iceland and Norway (RS 916.443.11 Ordonnance du 18 novembre 2015 réglant les échanges d'importation, de transit et d'exportation d'animaux et de produits animaux avec les Etats membres de l'UE, l'Islande et la Norvège)

<https://www.fedlex.admin.ch/eli/cc/2015/846/fr>

*Regulates the import, transit and export of animals, animal by-products and animal products.*

Federal Act on the Control of Goods Suitable for Civilian and Military Purposes and Specific Military Goods ( R. 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)

[https://www.fedlex.admin.ch/eli/cc/1997/1697\\_1697\\_1697/fr](https://www.fedlex.admin.ch/eli/cc/1997/1697_1697_1697/fr)

*Regulates, inter alia, the import, export and transit of microorganisms and toxins. Applies to dual-use goods and specific military goods, which are the subject of international agreements. Also outlines the responsibilities of the Federal Council in this regard including licensing and reporting requirements and surveillance measures for import, export, transit, production, storage, transfer and use of goods.*

Ordinance on the Control of Goods Suitable for Civilian and Military Purposes, Specific Military Goods and Strategic Goods (RS 946.202.1 Ordonnance du 3 juin 2016 sur le contrôle des biens utilisables à des fins civiles et militaires, des biens militaires spécifiques et des biens stratégiques)

<https://www.fedlex.admin.ch/eli/cc/2016/352/fr>

*Regulates the export, import and transit of goods usable for civilian and military purposes, specific military goods and strategic goods which are the subject of international control measures not binding pursuant to international law. Applies in Swiss customs area to Swiss customs warehouses and Swiss customs enclaves.*

Ordinance on the Control of Chemicals Suitable for Civilian and Military Purposes ( RS 946.202.21 Ordonnance du 21 août 2013 sur le contrôle des produits chimiques utilisables à des fins civiles et militaires)

<https://www.fedlex.admin.ch/eli/cc/2013/580/fr>

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)

<https://www.fedlex.admin.ch/eli/cc/2000/429/fr>

Federal Act on Sanctions on Trade with Foreign Countries ( RS 946.231 Loi fédérale du 22 mars 2002 sur l'application de sanctions internationales)

<https://www.fedlex.admin.ch/eli/cc/2002/564/fr>

Ordinance of the Swiss Financial Market Supervisory Authority on Combatting Money Laundering and Financing of Terrorism in the Financial Sector (RS 955.033.0 Ordonnance de l'Autorité fédérale de surveillance des marchés financiers du 3 juin 2015 sur la lutte contre le blanchiment d'argent et le financement du terrorisme dans le secteur financier)

<https://www.fedlex.admin.ch/eli/cc/2015/390/fr>

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)

<https://www.fedlex.admin.ch/eli/cc/2004/626/fr>

Titles in English are unofficial 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: <https://www.un.org/en/sc/1540/national-implementation/national-reports.shtml>

## **Confidence-Building Measure "F"**

### **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.

#### **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.

Tuesday, May 4, 1976

2. Past offensive biological research and development programmes:

- no

- Period(s) 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(s) 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) as well as past CBM declarations.

# Confidence-Building Measure "G"

## 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.

### Form G

#### Declaration of vaccine production facilities

1. Name of facility:

**Janssen Vaccines, Branch of Cilag International GmbH**

2. Location (mailing address):

Rehhagstrasse 79, CH-3018 Bern, Switzerland

3. General description of the types of diseases covered:

Disease targeted Respiratory Coronavirus infections

1 Name of vaccine Ad26.COVS.S

License Emergency Use: 106 countries

Disease targeted Bacteremia; Urinary Tract Infections (UTI)

2 Name of vaccine ExPEC Multivalent (Extraenous Pathogenic E.coli)

License Phase 3: US, CA, JP, NZ, AU, KR, NL, ES, DK, UK

1. Name of facility:

**EmergentBiosolutions Berna GmbH**

2. Location (mailing address):

Oberriedstrasse 68, CH-3174 Thörishaus, Switzerland

3. General description of the types of diseases covered:

Disease targeted Typhoid fever

1 Name of vaccine Vivotif, Typhoral L

License US, EU, CH, NO, UK, IL, CA, AU, NZ, SG, MY, KR

Disease targeted Cholera

2 Name of vaccine Vaxchora

License US, EU

Disease targeted Chikungunya fever

3 Name of vaccine No trade name yet

License Phase 2 and 3: US

1. Name of facility:

**Lonza AG**

2. Location (mailing address):

Lonzastrasse, CH-3930 Visp, Switzerland

3. General description of the types of diseases covered:

Disease targeted Respiratory Coronavirus infections

1 Name of vaccine mRNA-1273 (Moderna)

License US, EU, CH, other countries

Disease targeted Invasive Pneumococcal Disease

2 Name of vaccine VAX-24

License Phase 1/2: US

## Notes

1. World Health Organization
2. World Organization for Animal Health.
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)".
5. In accordance with the latest edition of the WHO Laboratory Biosafety Manual, or equivalent.
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.
9. Including viruses and prions.
10. It is understood that this may include organisms made pathogenic by molecular biology techniques, such as genetic engineering.
11. See paragraph 2 of the chapeau to Confidence-Building Measure B.
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.