

## Details

### **Biosafety level 3 laboratory units of the Institutes of Virology and Medical Microbiology and Hygiene in the Department of Diagnostics at the University Medical Center Freiburg and the Faculty of Medicine, University of Freiburg (BSL-3\_FR)**

In order to diagnose and investigate pathogens of the risk group 3, the Institutes of Virology and Medical Microbiology and Hygiene maintain a laboratory infrastructure consisting of laboratory units for biosafety level 3 (BSL-3) cell culture work as well as a BSL-3 experimental animal unit. The biosafety equipment of the BSL-3 units enables cell culture work on a total of 6 biosafety cabinets. In addition, they count with an epifluorescence microscope and a high-resolution confocal laser-scanning microscope. A 10x genomics chromium system allows analysis of nucleic acids at single cell level. The experimental animal unit has a capacity of 70 separately ventilated cages and is equipped with an isoflurane anesthesia system and a peristaltic pump for perfusions.

**Address:** Hermann-Herder-Str. 11  
79104 Freiburg  
Baden-Württemberg  
Deutschland  
[To website](#)

## Host Institution

**Universitätsklinikum Freiburg, Department für Diagnostik**  
Hermann-Herder-Str. 11  
79104 Freiburg  
Baden-Württemberg  
Deutschland  
<https://www.uniklinik-freiburg.de/myh.html>

## Scientific Domain

**Primary Subjects:**

- Biology
- Medicine

**Secondary Subjects:**

## Category

Clinical Research Centers

## Scientific Services

The biosafety level 3 laboratory units provide the infrastructure to perform basic research in microbiology, virology and immunology using cell culture systems and the mouse model. Further they allow for diagnostic testing of patient material in a high-biosafety environment and translational research projects for the development of new therapeutics or pathogen inactivation methods. Temporally defined projects (< 1 year) can be performed by our specially trained personnel as cooperative projects. Long term projects (> 1 year) can be performed independently by external user after intensive training. Typical projects are (i) testing of antiviral therapeutics and vaccine candidates, (ii) analysis of viral replication kinetics in cell culture and the mouse model, (iii) advanced live cell imaging as well as (iv) characterizations of anti-microbial immune responses in vivo.

## Scientific Equipment

- Biosafety cabinets for cell culture and handling of small rodents
- CO2 incubators for cell culture connected to central CO2 supply
- Centrifuges to harvest cell cultures and microorganisms
- - 80°C freezers for sample storage
- Brightfield microscope for cell culture

- Epifluorescence microscope for cell culture
- Confocal laser scanning microscope with Airyscan detector (Zeiss) for high--resolution live cell imaging
- Plate reader for measuring luminescence and fluorescence
- 10X Genomics Chromium Device for single cell nucleic acid sequencing
- Rack equipped with 70 ventilated mouse cages
- Isoflurane anesthesia machine for small rodents
- Homogenisator for tissue disruption
- Peristaltic pump for perfusion of small rodents
- Autoclaves for sample inactivation

## Keywords

- BSL-3
- risk group 3
- microbiology
- virology
- immunology
- diagnostics

## Networks

**SFB 1160: C01**

<https://www.sfb1160.uni-freiburg.de/>

**SFB-TRR179: TP16**

<https://www.trr179.de/de/>

**FOR5200: P08**

<https://deep-dv.org/wp/de/>

## Users per annum

**Internal Users:** 20

**External Users in total:** 3

**External Users:** 3

**External Users in the EU:**

**External Users outside of EU:**