

EXPERIMENTAL INFECTIOLOGY PLATFORM



The Experimental Infectiology Platform (PFIE) allows **experimental infections** to be carried out on **farm animals** (cattle, horses, sheep, goats, pigs, poultry) but also on **laboratory animals** (rodents, lagomorphs) and **wildlife** (wild boar, badgers, etc.).

The PFIE has more than 12,000 m² of facilities allowing the **study of group 2 or 3 pathogens** (viruses, bacteria, parasites), some of which are classified as GMOs, held at the CIRM-BP and in the UMRs of the Animal Health department. It also offers the possibility of **breeding animals with specific health and genetic status**.

The diseases studied have an impact on **animal (epizootics) and/or human (zoonoses) health**.

The PFIE benefits from the skills and experience of 46 staff (25 animal technicians, 3 research and innovation officers, 1 veterinarian, 11 maintenance and administrative staff).

The PFIE is labeled as " **ISC INRAE** " (collective scientific infrastructure) and labeled " **IBISA** ". It is also part of **several networks, regional** (FéRI: Federation of Research in Infectiology of the Center Val de Loire region), **national** (EMERG'IN) and **European** (VETBIONET, TRANSVAC2, ISIDORE).

The PFIE is **ISO9001** certified over its entire scope, and is committed to an **EMS approach** (environmental management system / ISO14001).

The PFIE is a national structure open to the entire scientific community, public or private, national or international establishments.



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A platform dedicated to the infectiology of livestock and wildlife



Understanding host-pathogen interactions and evaluation of diagnosis and control means:

- ③ **Physiopathology and protective response** (immunology)
- ③ **Realization of infectious challenges *in vivo*** (infectious load, dissemination etc.)
- ③ **Evaluation of diagnostic tests**
- ③ **Infection control** (vaccines, immunostimulants, antimicrobials, disinfectants)

A wide variety of animal models:

- ③ **Cattle:** Tuberculosis, Cryptosporidiosis, Bluetongue virus, Schmallenberg virus, BRSV
- ③ **Sheep/Goat:** Rift Valley Fever, Q Fever, Toxoplasmosis, Bluetongue of sheep
- ③ **Equine:** West Nile virus, Herpes virus, Trypanosomiasis, Equine Viral Arteritis
- ③ **Swine:** Influenza, Swine Reproductive and Respiratory Syndrome, Hepatitis E
- ③ **Wildlife:** Trichinellosis (wild boar), Tuberculosis (Badger)
- ③ **Rabbit:** Pasteurellosis, Colibacillosis, Clostridiosis
- ③ **Poultry:** Avian flu, Marek's disease, Campylobacteriosis, Salmonellosis, Colibacillosis, Coccidiosis



BSL2 and BSL3 facilities:

- ③ **530 m² of experimental BSL3 facilities**, including: **laboratories, surgery and autopsy rooms** for large animals
- ③ **700 m² of experimental BSL2 facilities**
- ③ **30 isolators** (poultry and rodents)
- ③ **Thermal decontamination** (autoclave) of solid and liquid effluents

The supply of animals with specific health and genetic status :

- ③ **Controlled health status** (ovine)
- ③ **SPF*** (poultry), **inbred and congenic lines**
- ③ **SOPF*** (mouse), **transgenic lines**
- ③ **Germ free and gnotobiotics** (poultry)
- ③ **Line decontamination by aseptic hysterectomy** (mouse)



*Specific Pathogens Free
**Specific and Opportunistic Pathogens Free

A range of associated services:

- ③ **Surgery - Anesthesia in containment:**
Maintenance under gaseous general anesthesia with mechanical/assisted ventilation, up to 24h
Placement of surgical implants, creation of intestinal loops, broncho-alveolar lavage
- ③ **Medical imaging in containment:**
Ultrasound-guided puncture (CSF-pony, urine-pig), ultrasound-guided catheter placement (pig)
Intrapulmonary inoculation using endo-fibroscopy (cattle, badger, pig)
In vivo imaging on small animals (rodents, poultry)
- ③ **Hematology and blood biochemistry** on farm animals