

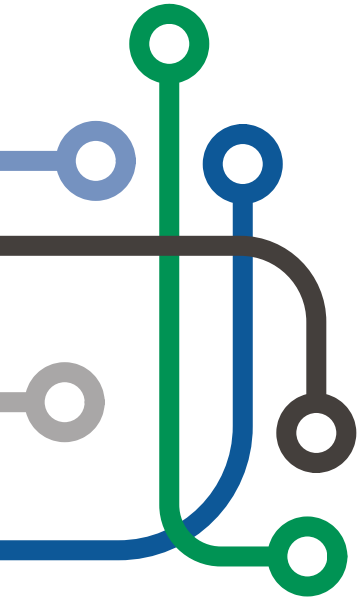


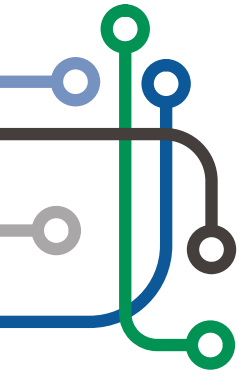
SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

Istituto Romagnolo per lo Studio dei Tumori "Dino Amadori"
Istituto di Ricovero e Cura a Carattere Scientifico

ISTITUTO
ROMAGNOLO
PER LO STUDIO
DEI TUMORI
DINO AMADORI

TECHNOLOGY ASSETS & SERVICES





EXPERIMENTAL PATHOLOGY AND MODELLING

The Experimental Pathology and Modelling (EPM) – IRST provides AVR researchers and external professionals with a comprehensive range of expertise, services, infrastructure, and technologically advanced equipment to support the study of biological processes in experimental pathology, with a particular focus on oncology.

The Facility supports:

- the development of experimental models for diseases of interest across IRST and AVR research groups;
- basic research aimed at understanding physiological and pathological mechanisms;
- preclinical studies for the development of innovative therapeutic and diagnostic strategies;
- evaluation of responses to pharmacological, radiotherapy, and immunotherapy treatments.

The management of the EPM and associated support laboratories includes coordinated organizational and regulatory processes, such as training and certification of personnel, activation and updating of individual competence logbooks for professionals involved in animal experimentation, technology management and maintenance, and the prevention and control of chemical and biological risks. These activities are integrated with specific operational procedures tailored to each experimental animal model.

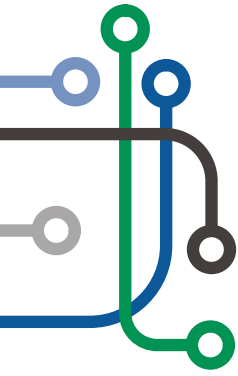
EQUIPMENT

Mice Facility: Advanced Preclinical Modeling
immunocompetent and immunodeficient murine models (*Mus musculus*)
Authorization (Ministerial Decree No. 02/2022-UT, issued 13 May 2022)

The Mice Facility is designed to provide an optimal environment for both immunocompetent and immunodeficient murine models (*Mus musculus*). It serves as a high-precision platform for oncology, immunology, and radiotherapy research, offering:

- Controlled Environment: Allentown Individually Ventilated Cages (IVC) with remote parameters monitoring, ensuring maximum biosecurity and animal welfare.
- Precision Preclinical Irradiation: Kubtec X-ray and shielded irradiators for targeted radiotherapy studies and bone density analysis.
- Stereotactic & Microsurgery Suite: Digital stereotaxic systems for intracranial orthotopic cell inoculation and Zeiss stereomicroscopy for micro-surgical procedures.
- Advanced In Vivo Imaging: IVIS Spectrum III (PerkinElmer) workstation for real-time bioluminescence and fluorescence tracking of tumor growth and drug response.
- Behavioral & Motor Assessment: Comprehensive suite for functional testing, including Rota-Rod (coordination), Grip Strength tests, and Elevated Plus Maze with automated tracking software.





EQUIPMENT

The Zebrafish Facility at IRST-Meldola leverages the unique biological advantages of *Danio rerio* for rapid, large-scale screening and high-resolution developmental studies. The facility is fully compliant with EU Directive 2010/63/UE, specializing in:

- High-Throughput Screening: Rapid validation of therapeutic compounds and genetic targets using embryos and larvae (up to 5 days post-fertilization).
- Fluorescence & Brightfield Imaging: confocal and stereomicroscopes equipped with high-resolution cameras for in vivo deep-tissue observation and vascular/cellular tracking.
- Optimized Aquatic Housing: Custom-designed aquaculture systems ensuring stable physiological parameters and optimal breeding conditions.
- Integrated Pathological Modeling: Dedicated platforms for the study of experimental oncological processes and basic physiological mechanisms in a transparent biological system.

SERVICES

The Animal Facility of IRST serves as both an internal research engine and a high-level service platform for universities, pharmaceutical companies, and the biomedical industry.

Experimental Model Development: Design and setup of customized disease models tailored to specific oncological and pathological research.

Early drug or innovative therapeutical approach development : Studies on drug or immunotherapy efficacy, toxicity, and response to combinatorial treatments (chemo-, radio-, and immunotherapy).

Animal Welfare & Monitoring: Specialized veterinary support, longitudinal welfare assessment, and ethical compliance management.

Technical Training & Hosting: Comprehensive training programs for autonomous researcher access and staff qualification.

Collaborative Research & Service Provision: Full-service experimental execution or co-development projects for external academic and corporate partners.

CONTACT

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