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

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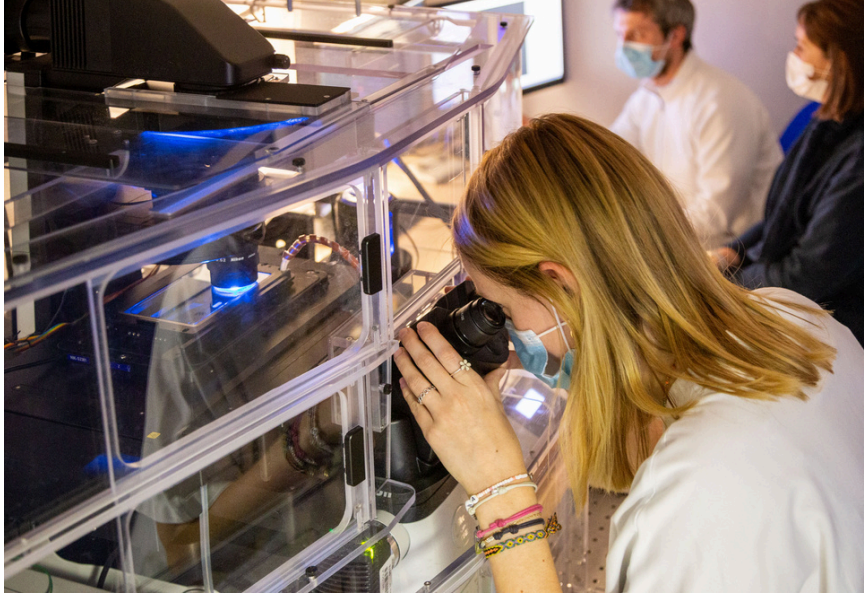

DESCRIPTION

The IRST Biosciences Laboratory (HTN LAB) represents the core of **translational research and advanced molecular diagnostics** activities at IRST.

Covering an area of approximately **500 square meters**, it is a multifunctional facility organized into two main areas:

- **The Advanced and Predictive Molecular Diagnostics Area**, which performs biomolecular characterization activities supporting personalized clinical pathways.
- **The Research Area**, divided into four specialized sectors: Preclinic and Osteo-oncology, Translational Hematology, Translational Oncology, and the Animal Facility.

A distinctive feature of the HTN LAB is its strong focus on **personalized medicine**, achieved through the identification and validation of diagnostic, prognostic, and predictive biomarkers, including toxicity markers and pharmacogenomic profiles.

The laboratory is also integrated into the **High Technology Network of the Emilia-Romagna Region and the CLUST-ER Life Sciences Association**, promoting innovation and technology transfer in synergy with universities, companies, and public institutions.

Through its multidisciplinary expertise and advanced facilities, the IRST HTN LAB **supports the industrial sector in the development of innovation projects, experimental validation, and technological optimization.**

The HTN LAB is structured into specialized units staffed by professionals with extensive **experience in specific research fields** and the expertise needed to develop new projects across diverse scientific domains.

EQUIPMENT

The laboratory is equipped with state-of-the-art technologies for oncological research and molecular diagnostics, including:

- Next Generation Sequencers (NGS) for genetic and genomic analyses — NovaSeq 6000, NextSeq 550 Nucleotide Sequencing Analyzer.
- Instrumentation for the identification and quantification of circulating and tissue biomarkers (cellular, vesicular, genetic, and epigenetic) — 10x Genomics Nucleotide Sequencing Analyzer, GeoMx™ Digital Spatial Profiler.
- Production platforms for monoclonal and bispecific antibodies — Phage Display technology.
- Systems for the study of circulating tumor cells (CTCs) — DEPArray Cell Isolator.
- Confocal microscopes for deep imaging and high-resolution cellular analysis — Nikon A1 Confocal Microscope.
- Animal Facility with dedicated housing for zebrafish (preclinical models) and mice (preclinical models).
- Fully equipped laboratories for cell culture and in vitro experimentation — Optima XPN Ultracentrifuge.
- Infrastructures for advanced molecular characterization and integrated management of biomolecular data.

SERVICES

The Biosciences Laboratory offers a wide range of services supporting preclinical and clinical research, industry, and the scientific network, including:

- Advanced molecular diagnostics: identification of circulating and tissue biomarkers to personalize therapeutic pathways.
- Translational research: development and validation of new diagnostic, prognostic, and predictive biomarkers of clinical response.
- Pharmacogenomics and toxicity: definition of molecular profiles predictive of response and tolerance to oncological treatments.
- Clinical study support: integration of biomolecular analyses with clinical data to enhance experimental protocols.
- Co-development and technology transfer projects: collaboration with companies, universities, and institutions for research and development activities.

CONTACT

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