Pediatric Research

LIST OF EQUIPMENT AVAILABLE IN IRP

- **BL2 class cell rooms.**

- **Cytofluorimetry**: two cytometers, an FC500 and a Cytoflex; and three sorters, MoFlo XDP, FACS Aria III, FACS Celesta.. -Microscopy: latest generation ZEISS LSM 800 URGB 3ch Aryscan confocal microscope, equipped with Airyscan technology for super-resolution image acquisition; ZEISS Axio Observer 7 Motorized X fluorescence microscope,Y stage and Z focus with LED technology, equipped with a thermostatically controlled CO2 incubator for live cell imaging experiments; JEM-2100Plus electron transmission microscope; Leica Thunder Imager Model Organism fluorescence stereomicroscope. Confocal spinning disk microscope for high content imaging (Evident), combined with AI-based software for high-process analysis.

- **Biological 3D printer**: CellInk BioX printer.

- **Zebrafish Stabulario**: 3 rooms equipped with approximately 80 aquariums and capable of housing up to 2,000 zebrafish. There are 2 microinjectors and 2 stereomicroscopes available, one of which is fluorescent. -Stabulario Mus Musculus: includes cages and equipment for housing mice. Mice are maintained in full compliance with their ethology and physiology, in accordance with the legal provisions (DLvo 26/14), also adopting environmental enrichment systems to promote the rodent's normal activities. The room is equipped with a timed lighting system to ensure circadian rhythms, and a ventilation system that allows for adequate air exchange. Two rooms are available for carrying out experiments

equipped with laminar flow hoods and chemical hoods. Further instrumentation: X-ray irradiator; gas anesthesia system; washing room, equipped with a machine for washing and disinfecting the cages and a through autoclave for sterilizing/inactivating the material.

- **Metabolomics**:Metabolomics is used to study metabolites present in a biological system, while lipidomics focuses on the complete lipid profile within cells, tissues, or organisms, providing information on lipid-related functions and metabolic pathways.

- **Specialized instruments**: Beckman Coulter Optima XE90 Ultracentrifuge; Spark Tecan Plate Reader; ThermoFisher Scientific iBright Imager FL1500 Imaging System; LI5 DIGIT RS232 Freeze Dryer; BDRhapsody System Single Cell Isolation and QC; Leica Cryostat; In Vivo Imaging System VIS LUMINA S5. Neon Next Electroporator (THERMO FISHER).