

Preincubation Unit
Cell & Molecular Biology
Center

In-Charge:
Ranjith Muniswamy, PhD
Assistant Professor, IIC coordinator

Equipment's available	Experiments conducted
<ol style="list-style-type: none"> 1. Biosafety Hood - LABTOP 2. Carbon dioxide incubator – Thermo Scientific 3. Semi-Auto Analyzer – NIHON KOHDEN 4. PCR Thermo cycler - Quanta Studio 5. Electrophoresis and Blotting- Bio-Rad 6. Microplate Reader-Tecan Infinite M200 Pro 7. Gel Documentation Gel Image W/UV Light Base-Life 8. Inverted Microscope (Evos XL Core Fixed stage -F0514) 9. Cooling Centrifuge. 10. Deep freezer -80⁰ C 11. Pierce Powder Blotter station-Crystal bio 12. Micro Centrifuge (SKR-1807-S) 	<p>Cell-based assays provide a wealth of information and are valuable tools in drug discovery applications. Reducing high attrition rates due to toxicity in drug development continues to be a key challenge for the pharmaceutical industry. In our Cell & Molecular Biology lab we perform various assays (mentioned below) to test and overcome drug toxicity.</p> <ol style="list-style-type: none"> 1. Cell Viability Assays - Determine the ratio of live and dead cells, Cell Proliferation Assays - monitor the growth rate of cell populations, Cytotoxicity Assays - Assess the number of live and dead cells in a population following treatment with a drug candidate or pharmacological agent under investigation, Electrophoretic mobility shift assays, and Cell Senescence Assays - to assess cell health, such as cell senescence assays that detect senescence markers associated with β-galactosidase activity which reflects cell membrane integrity. 2. DNA & RNA: DNA extraction, sequencing, and cloning, gene expression, 16s and 18s rRNA sequencing, mutagenesis and phylogenic analysis. 3. In-silico analysis of mutations and SNP's by PROVEAN, SIFT, and Polyphen 2.

