Magnetic Resonance Imaging (MRI)

- Effect of 16 generations of a recuperation diet in a multi-generationally undernourished wistar rat colony

Confocal Microscopy

- Detection of intracellular bacteria in exfoliated urothelial cells in urine of reproductive age group with UTI
- To find the presence of biofilm in the central venous catheters using confocal microscope in a tertiary care hospital
- Localization of PPAR-gamma inside the cell after treatment with certain chemicals

Fluorescence-Activated Cell Sorting (FACS)

- Evaluation of flowcytometric phenotyping and DNA analysis for detection of malignant cells in effusion specimens: correlation with immunohistochemistry and morphological findings
- A study of CD4/CD8 counts and cytokines in Alcoholic liver disease
- To understand systemic changes following nutrient restriction
- Identifying novel biomarkers of chronic obstructive pulmonary disease (COPD) for its early detection and prognosis
- Mitochondrial marker screening of GDM and post-partum T2DM Indian patients using FACS and Confocal microscopy technique
- Deciphering mechanism of anticancer activity of plumbagin on oral carcinoma cell line
- To study the anticancer effects of Aegle marmelos extracts on breast cancer cells and colorectal carcinoma cells
- Development of Natural Immunomodulators to Enhance Immune response via Molecular Nutrition from Tridax procumbens seed extract
- Development of novel particle mediated vaccine delivery system
- Harnessing the potential of antigen presentation in immunotherapy
- Role of CD63 and its glycosylation in regulating cancer metastasis
- Pancreatic regeneration in a multi-generationally undernourished wistar rat colony

International Projects

- Molecular biomarkers of future Type 1 diabetes (T1D). University of Western Sydney
- Efficacy in treating iron deficiency anemia of pregnancy with lactoferrin

Molecular Diagnostic Laboratory

- Lab NABL and ICMR approved for COVID 19 RT- PCR Testing. As of 11-10-2021 22000+ samples are tested by RT PCR
- Rapid Antigen Test for Covid 19

Dr. D.Y. Patil, Vidyapeeth, Pune

(Deemed to be University)

(Re-accredited by NAAC with a CGPA of 3.62 on a four point scale at A Grade)

(An ISO 9001:2008 Certified University)

OUR MISSION

The Central Research Facility is an integrated facility for all students and staff at Dr. D.Y. Patil Vidyapeeth to carry out their research activities centrally under one umbrella.

Molecular Diagnostics Facility

Tissue Culture and Cell Biology Facility

Facilities provided by

CENTRAL RESEARCH FACILITY

Dr. D.Y. Patil Medical College Hospital & Researh Centre, Pimpri, Pune 411018

- Diagnostic Testing for COVID-19
- Cancer Research
- Tissue Banking
- Confocal Microscopy
- Cell Culture
- QPCR Based Diagnostics
- Flow Cytometry
- Organ Culture
- Drug Screening

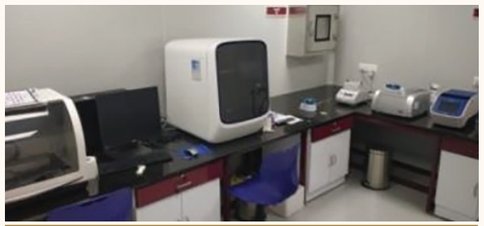
OUR OBJECTIVES

Build a robust and state-of-the-art research facility with the world's most advanced platform technologies for advanced research in applied genomics, proteomics, immunology, microbiology, biotechnology, bioinformatics and others.

Develop a pool of human talent (faculty, scientists, technicians) that could support a wide-ranging and high-end research program in these applied research fields.

Lab Facility Available at Central Research Facility

RNA Extraction Facility



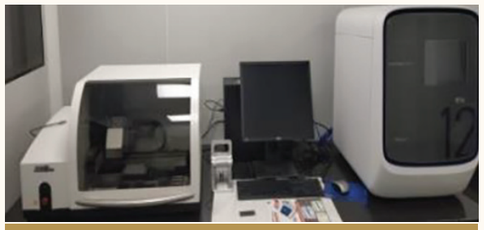
PCR Facility

Tissue Culture Laboratory

60 KVA UPS Backup

Instrumentation Facility at Central Research Facility

ELISA Reader & Washer



Quant Studio 12K Flex PCR

FACS JAZZ Flow Cytometer

Zeiss LSM710 Confocal Micrscope

RESEARCH THRUST AREAS

Cancer Research

- Exploitation of abnormal DNA repair in cancer as a strategy for cancer therapy
- Investigating landscape of crosstalk between ATM kinase and DNA ligase III in breast carcinoma cells
- To Investigate Effects of Non-Cellular Actors from one Carcinoma upon Cellular Signaling Adaptation of another Carcinoma
- BRCAmiRS - Breast Cancer miRNA's Signatures in Indian Population

Cell Culture and Cell Biology Organ Culture, Drug Screening, Tissue Banking

- Effect of maternal undernutrition on placental hormones and angiogenesis: A comparative analysis in 3D organ culture
- Proliferative and Differentiation potential of bone marrow mesenchymal cells in an undernourished and transition wistar rat colony

Immunology- Covid 19 Research

- A pilot study to determine the T cell and NK cell immune response in seriously ill COVID 19 subjects: A Pilot observational study in Pune, India
- Assessment of Immunological, Hematological Biochemical profile its correlation with Clinical stage: Disease Outcome in COVID-19 Patients

Molecular Biology

- miRNA Biomarker prediction studies in Fetal Distress
- Effect of Ayurvedic Drugs on cardiovascular function in an experimental model of Under nutrition
- Effect of Ayurvedic drugs on reproductive function in a multigenerational undernourished female wistar rat colony
- Pancreatic regeneration in a multi-generationally undernourished wistar rat colony

Radiology

Computed Tomography Scan (CT Scan)

- Bone status in a Wistar rat model of caloric restriction and effect of a recuperation diet

Collaboration- Thomas Jefferson University, USA and National Chemical Laboratory, Pune