

# TRAINING IN NANO-BIOTECHNOLOGY

## Ist Week - - Basics of Nanotechnology & Synthesis of Nanoparticle

Day 1: Lab safety and Analytical Procedures , Chemical & Reagent Preparation

Day 2: Extraction & Purification of Curcumin with raw powder

Day 3: Chromatography analysis of purified curcumin

Day 4: Synthesis of Nanoparticles using extracted curcumin

Day 5: Analysis of synthesised Nanoparticle

Note - SEM will be outsourced



## IInd Week - Cell based Assay - MTT, MIC & Inhibitory Concentration

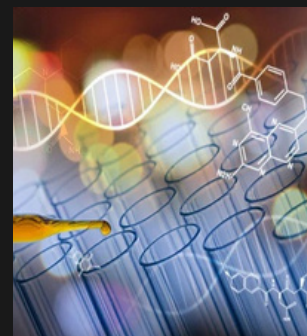
Day 1: Cell Culture Lab Safety, Microscopy, Basics of Cell Culture

Day 2: Culture of a Continuously Growing Cell Line

Day 3: MTT Assay for cytotoxicity analysis

Day 4: Inhibition Concentration (IC50) with curcumin

Day 5: Anti-Microbial assay of extracted crude extract ( ELISA based )



## IIIRD Week - Preparation of Lipid-mRNA Nanoparticle

Day 1: RNA Extraction, Quantification & mRNA Purification

Day 2: Preparation of mRNA-Loaded Lipid Nanoparticles

Day 3: Characterization of Lipid-mRNA Nanoparticle

Day 4: Evaluation of Cytotoxicity of Lipid-mRNA Nanoparticle

Day 5: Evaluation of Lipid-mRNA Nanoparticle Transfection



## IVth Week - Gene Expression Study of Lipid-mRNA Nanoparticle

Day 1 : RNA Extraction, Quantitative & Qualitative Analysis of RNA

Day 2: mRNA Purification & First Strand cDNA Synthesis

Day 3: Qualitative RT-PCR Analysis for gene expression

Day 4: Quantitative RT-PCR Analysis for gene expression

Day 5: Quantitative Real Time PCR Data Analysis



## Vth Week - Project Work

We will share our ideas and decide for small piece of research in limited time frame.

**Cost of Training :** Training Only -INR 13,000 / -  
Training + Project - INR 15,000/-

**Duration :** 80 to 100 Hrs or 4 to 6 Weeks



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