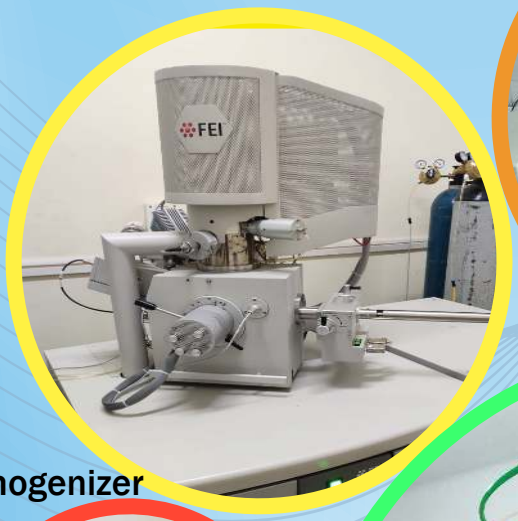
NIPER-HYDERABAD

National Institute of Pharmaceutical Education and Research

Analytical services

Hot stage microscopy

SEM



LC/Q-TOF-MS

NMR

Homogenizer

HPTLC

Ultracentrifuge

Rheometer

Confocal Microscope

DSC

• Quality services • Affordable prices • Quick turnaround

Please visit http://www.niperhyd.ac.in/Services.html for additional details

NMR Facility; Bruker 500 MHz

Nuclear magnetic resonance spectroscopy (NMR) is an indispensable technique for the analysis and characterization of small organic compounds, key starting molecules and API's.
It is also used for structural elucidation, kinetics and dynamics of molecules.
As an analytical technique, it can provide composition of analytes in mixtures.
At our facility, we can provide services for characterizing small organic molecules, metabolites, peptides and natural products.

LC-QTOF-MS/MS
Agilent Technologies; Model: 6540

We offer following services:

- Impurity Profiling
- Metabolites Profiling
- Structure Elucidation of Degradation Products, Intermediates and New Chemical Entity
- Analysis of Herbal and Traditional Medicines

HPTLC CAMAG; Vision CAT software

We offer following services:

- Assay and content uniformity in different pharmaceutical formulations
- Analysis of Herbal and Traditional Medicines
- Food Analysis
- Determination of Pesticides

UPLC Acquity H, Empower 3 software

We offer following services:

- Analytical and Bio-analytical Method Development and Validation
- Analysis of Active Pharmaceutical Ingredients(APIs) and intermediates
- Drug(s) quantification in different pharmaceutical formulations
- Impurity profiling
- Drug release testing

HPLC Waters e2695, Empower 3 software

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Confocal Imaging facility microscope

Confocal microscopy or confocal laser scanning microscopy (CLSM) has wide range of applications in top level biomedical research and surface analysis in material science applications, offering unprecedented precision in three-dimensional imaging and exact examination of subcellular structures and dynamic processes

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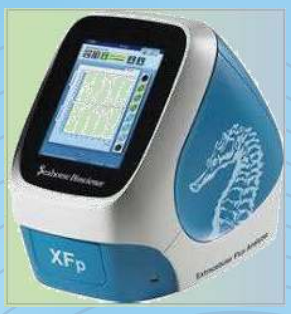

Sea Horse Facility

We have standardized this equipment at our Institute to measure oxygen consumption rate (OCR), extracellular acidification rate (ECARI and glycolytic rate in different cell lines. This instrument offers cell analysis technology solutions that detect discrete changes in cellular bioenergetics in real-time which illustrate cell signaling, proliferation, activation, toxicity and biosynthesis

Freeze dryer Skadi Europe
Model: FD5508

Freeze dryer helps to remove solvent (Water) at low temperature
Freeze-drying has been considered as a good technique to improve the long-term stability of colloidal nanoparticles.
Freeze-drying is a common preservation method

High pressure Homogenizer
Microfluidics Model: LM 20

Microfluidization uses the mechanism of flow through microchannels for generation of nanosized droplets.
Nanoparticles preparation is possible with continuous-flow microfluidics.

Spray Dryer
JISL; Model: SVR70N

Spray drying is a method of producing a dry powder from a liquid or slurry by rapidly drying with a hot gas. This is the preferred method of drying of many thermally-sensitive materials such as foods and pharmaceuticals.
Spray drying is a single-step process, suitable for the preparation of a broad range of powders with controlled properties for particular applications.

Rheometer Antonpaar
Model: MCR 102)

Rheometer is a laboratory device used to measure the way in which a liquid, suspension or slurry flows in response to applied forces.
Rheometer is used for characterization of semisolids dosage forms like gel, cream and ointment

Ultracentrifuge Thermoscientific

Ultracentrifuge is a centrifuge optimized for spinning a rotor at very high speeds, capable of generating acceleration as high as 1000000 g (approx. 9800 km/s^2)
Ultracentrifuge can separate nano-sized particles by the density-gradient equilibrium centrifugation method

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DSC
Mettler Toledo; Model: DSC1

DSC utilizes an innovative patented DSC sensor with 120 thermocouples which guarantees unmatched sensitivity. Calorimetric methods like DSC and High Pressure DSC are applied to study melting of nanosized materials

SEM Facility FEI- Model: Quanta 250 FEG

Scanning electron microscopy captures high resolution images of objects as small as 15 nanometers. It can determine the surface morphology of the samples
For example: Nanoparticles and microparticles.This technique has allowed biologists to learn much more about microscopic organisms, like bacteria and viruses, than was previously thought possible.

Hot stage microscope; Linkam Model: FD5508

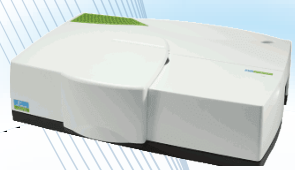
Hot Stage Microscopy is a powerful method to visually examine thermal transitions. Hot Stage Microscopy is a useful technique for studying transformations of crystalline structures

Particle size analyzer
Malvern; Model: Nano ZS

Particle size analysis based on light scattering has widespread application in many fields like agriculture and medicine. Particle size analysis is an integral component of the effort to formulate and manufacture many pharmaceutical dosage forms

FTIR; Make: Perkin Elmer

FTIR is used to obtain an infrared spectrum of absorption or emission of a solid, liquid and can be used in all applications such as routine analysis of organic molecules, like different functional group identification, APIs, etc.



UV-NIR; Make: Perkin Elmer

UV/Vis/NIR spectroscopy is used to detect the presence or absence of unsaturation (λmax) in organic molecules. Qualitative and quantitative analysis of pharmaceutical samples/compounds.

Polarimeter; Make: Rudolph

It is used to measure the angle of rotation of an optically active substance and useful for the determination of pharmaceutically important drug substances optical rotation.

Bench-Top Mass spectrometer; Make: Advion

It is useful for reaction monitoring, mass identification for the unknown compounds by batch and flow chemistry up to m/z 1200. We can quickly confirm the identity and purity of the samples. Moreover, little to no sample preparation is needed with ASAP or TLC/CMS an unique interface for direct mass analysis of TLC spots.

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