Discovery Research

Analytical Chemistry Capabilities

Discovery Research
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# Overview

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Infrastructure

State of the Art Laboratories

• Equipped with automated instruments which are fully sophisticated, qualified and calibrated.

• We provide a complete array of analytical services, to support the drug development, process research and product release procedures.

• Our extensive experience ensures rapid and reliable data delivery.
NMR-Bruker’s 400 MHz

- Most useful tool for identifying the skeletal structure of organic compounds. Essential for interpreting structure of the molecules by synthetic chemists and biologists for protein structure determination.

- $^1$H-NMR, D2O-Exchange, $^{13}$C-NMR, DEPT, 2D experiments like COSY, NOESY, ROESY, TOCSY and different nuclei like $^{31}$P, $^{15}$N, $^{19}$F etc., using Multipurpose Broad Band probe with Automated tuning and matching (ATM).
Mass Spectrometry (LC-MS/MS)

- Molecular ion determination and fragmentation.
- Impurities identification and LC-MS/MS profiling of unknown impurities.
- Quantification of ultra low concentrations of impurities in drug substances.
- Estimation of genotoxic impurities in drug intermediates and drug substances.
Liquid Chromatography (HPLC)

- Determination of the chromatographic purity of pharmaceutical substances; monitoring the chemical reaction & impurity profiling of a pharmaceutical product.
- HPLC Method Development using UV, PDA, Fluorescence and Refractive Index Detection Systems.
- Related Substances and Assay stability indicating method validation as per ICH guidelines / Customer specific protocol requirements.
- Chiral method development and validation (Both reverse phase and normal phase).
DSC (Differential Scanning Calorimetry):

- Most useful instrument for establishing polymorphism and pseudo polymorphism of different pharmaceutical products.
- Useful in detecting melting point of a given product.
TGA (Thermo Gravimetric Analysis):

- Most useful in determining the residual solvents, moisture loss (quantitative), crystalline and surface moisture.
Other Analytical Techniques

- Titrimetric Assays
- UV-Visible Spectrophotometer
- FTIR
- Karl-Fischer and Potentiometric Titrator
- Melting Point determination
- Additionally if customer is looking for any specific test, they can enquire with us.
Quality Assurance

- Independent Quality Assurance Team which ensures good research practices are followed through regular audits
- SOPs for Operation, Calibration, Maintenance and Quality Systems
- Document and Data Control, Conducting Internal Audits, Study Specific Audits
- Dedicated Archive facility for the retention of the records
- Well Managed Reports/Data and Samples Storage & Retrieval
Services

- Method development and validation for different pharmaceutical products and new chemical entities using HPLC with variable detectors.
- Determining the structure for a given compound by recording NMR spectra like 1H-NMR, 13C-NMR and other 2D-NMR.
- Molecular ion determination and fragmentation using LC-MS/MS.
- Thermal Analysis using DSC & TGA.
- Moisture determination using KF Titrator.
- Determination of Organic Volatile Impurities and Residual Solvents by using GC and GC-HS.
- Additionally if customer is looking for any specific test, they can enquire with us.
- We are committed to provide quality services in a timely and cost-effective manner.
- We shall ensure confidentiality, while being flexible and transparent with our clients.
Contacts

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