



INNOVATION TECHNOLOGY

A Global R&D Facility in India

The Facility

CADD (Computer-Aided Drug Design)

- Nano Technology Development
- Liposomes and Nano Elastic Liposomes
- Self Emulsifying Nano Drug Delivery System
- Depot Injection
- Microspheres
- Microneedle patches

API(Active Pharmaceutical Ingredient)

F & D (Formulation & Development)

- Transdermal Patches | Oral films
- Tablets | Capsules | Injections
- Nasal | Oral Spray
- Lyophilised Products
- Implants

Therapeutic Focus

CNS Drugs

Parkinson's, Alzheimer's, Schizophrenia

Orphan Drugs

Dengue, Malaria, MDR-Tuberculosis, Zika

Addiction

Drugs, Alcohol, Smoking

Pain

Long-Acting Formulations & Abuse Deterrent

Platform Technologies

New Drug Deliveries



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Navin Saxena Research & Technology Pvt. Ltd.

About Us

Navin Saxena Research & Technology (NSRT) is a state-of-the-art research centre inaugurated in April 2016 in the Kandla Special Economic Zone (KASEZ; Gujarat, India). We aim to bring affordable & innovative pharmaceutical technologies to the Indian and International market.

With a rich experience in pharmaceutical development & manufacturing, NSRT is capable of undertaking **cutting-edge research**. Our research team comprises of versatile and specialized pool of scientists in the field of **CADD, API** and **NDDS**. We are one of the few research companies who can cater to the development of API & formulations of **controlled drug substances**.

The Facility

Computer-Aided Drug Design (CADD)

- Computer-aided drug design makes use of the structural knowledge of either the target (**structure-based**) or known ligands with bioactivity (**ligand-based**) to facilitate the determination of promising candidate drugs.
- At NSRT, we use various virtual screening techniques using softwares such as **Autodock, Pyrx, GROMACS, Amber** to reduce the cost and time required for the discovery of a potent drug. We can also help our clients in toxicity prediction by using softwares such as **DEREK NEXUS (Rule based) & TOPKAT (Statistical)** (FDA and ICH M7 requirement compliant). Computational methods have shown great advantages since they are green, fast, economical, accurate, and most importantly they could be done before a compound is synthesized (Segall and Barber, 2014).

Active Pharmaceutical Ingredient (API)

Our highly experienced and skilled scientists are well equipped to synthesise any API or impurities from milligram to kilogram scale using state-of-the-art facility and technologies. NSRT is one of the few R&D centres in India, **capable of handling, synthesizing and storing controlled substances (narcotic & psychotropic substances)**. Supported by a **secure IT infrastructure, e-labNotes (online data entry)**

Our Facilities

- Multifunctional Reactors with SACADA system (20, 50, 100 L)
- Heating / Cooling capability from (-50°C to +200°C)
- Crystallizer
- Neutsche Filter
- Centrifuge
- Autoclaves
- Mobile Scrubber
- Jacketed reactor (5 & 20 L)
- Continuous Flow Reactor
- Rotavapor (20 L)
- Vacuum Tray Dryer

Formulation Development

Our Formulation department focuses on developing new drug delivery systems for existing molecules and also serves as a place for companies to take pilot scale validation batches for clinical trials. The facility is equipped with

Research Lab: Our research lab is fully-equipped to facilitate the development and optimization of all types of conventional & controlled released dosage forms including tablets, pellets, capsules, semisolid dosage form, transdermal patches, oral films, solution & lyophilized injection, depot injections, novel. While also incorporating QbD approach at each stage of the development process.

Kilo Scale Lab: The dedicated scale up lab is designed to meet all regulatory standards while manufacturing validation scale up batches for:

- Oral Solid Dosage-Tablets, Capsules & Pellets
- Oral Liquids
- Nasal & Oral Sprays
- Cream & Ointment
- Transdermal Patches and Oral films

Nanotechnology Development: The Nanotechnology department is equipped with the following equipment:

- Lyophilizer-Bench top a scale-up model (0.5 m²)
- High speed homogenizer with Multiple rods-25 ml to 5 L
- High pressure homogenizer

Analytical Quality Control Laboratory

Our ADL department is equipped with instruments used to develop and validate analytical techniques as per regulations & includes the following equipment:

- Gas Chromatographic (GC) with Head Space
- HPLC (Waters®) Chromatographic Systems with EMPOWER-3 software
- Networking capability for Chromatographic Systems (GC & HPLCs).
- Ultra-High Pressure Chromatographic (UPLC) Systems
- NMR
- Differential Scanning Calorimeters along with thermo gravimetric analyzers
- X-Ray Diffraction (XRD) Spectrophotometers
- UVI Visible Spectrophotometers
- Water Purification Systems
- Wet Chemistry Lab, Microbiological & Sterility Testing Unit, Stability chambers.

Quality Assurance

The QA department is responsible for ensuring that all research and pilot scale batches are carried out as per **CGXP** standards.

