



Aptuit Verona

FACTSHEET



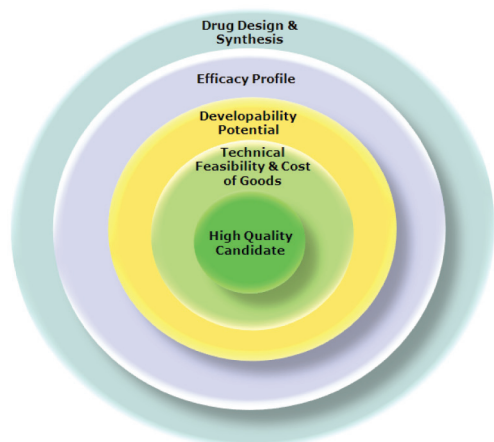
Integrated Drug Discovery Service

Aptuit's facility in Verona, Italy expands and bolsters Aptuit's integrated scientific expertise and operational capabilities for the benefit of our global customers.

Our drug discovery offering is based on a team of highly skilled scientists from integrated disciplines (Medicinal Chemistry, API Development & Manufacturing, Discovery Pharmacology, DMPK, Preclinical Technologies, Pharmaceutical development and Analytical Chemistry) working together to generate and characterize candidates.

The Strategy

As many as 75-80% of development candidates suffer attrition due to poor intrinsic properties. Aptuit's approach to drug discovery combats late stage attrition through the identification of high quality candidates. This is achieved through a combination of robust validation of the biological target, rigorous optimization of chemical starting points, and thorough appraisal of the efficacy profile and developability potential. This permits realistic human dose predictions to be made exploiting mechanistic PK/PD relationships, and therefore a meaningful evaluation of this predicted dose in the context of the safety profile, therapeutic index and technical feasibility.



Our scientists have a strong track record of delivering high quality candidates with dedication to continual attention of understanding the causes of candidate attrition and applying the most advanced approaches to reduce it.

We are also experienced in developing patent strategies and building the associated portfolios. Therapeutic areas of particular expertise include Neurosciences, Cardio-Vascular and Antibiotics.

Aptuit's Integrated Drug Discovery Services:

Discovery Pharmacology

- Target distribution
- Target functional characterization
- Electrophysiology in cells and integrated systems
- Native tissues, cell lines and primary cells
- Animal models development
- Range of validated neurosciences models

Medicinal Chemistry

- Lead Generation
- Lead Optimization
- Parallel multi-parameters optimization
- Chemical series exploration (design and/or synthesis)
- Hit and lead explosion using parallel synthesis
- Structure-activity relationship determination
- Lead series identification through Fast-follower approach

Computational Chemistry

- Ligand Based Drug Design
- Structure Based Drug Design
- Chemometrics
- Cheminformatics
- Chemical Library Design

Analytical Sciences

- Structural elucidation (NMR, IR, MS)
- Reaction monitoring and kinetics by NMR and/or LC-MS
- Quantitative assays by NMR
- Heteronuclear NMR (¹⁹F, ³¹P, ¹⁵N, ¹¹B, ²⁹Si, ⁷⁷Se, ¹¹⁹Sn, etc.)
- Ligand-target interaction studies
- Exact mass measurement
- Chiral analysis and separation (HPLC/SFC)



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Integrated Drug Discovery Service

Pharmaceutical Development

- Identification of “non drug-like” properties of potential candidates and rapid assessment of their pharmaceutical and biopharmaceutical risk
- Selection and optimization of the most suitable formulation for preclinical studies and identification of clinical formulation strategy

API Development & Manufacturing

- Process identification toward the scale-up of new leads, scaffolds and intermediates
- Physical Properties manipulation

Safety Assessment

- Early screening of toxicity, including in silico prediction
- Toxicity studies (GLP) up to 6 months
- Safety Pharmacology studies (GLP) including Abuse Liability Assessment and Neuro-Cardio Model
- Integrated investigative capabilities, including biomarkers identification and validation
- Regulatory and Investigative Pathology, including electromicroscopy (GLP), animal model characterization, transgenic phenotyping and peer-review
- Non clinical assessment of safety and regulatory document preparation

DMPK and Bioanalysis

- In-vitro High Throughput Assays
- Preclinical and clinical blood, plasma, and tissues bioanalysis
- Metabolic profile in plasma, tissues excreta and in-vitro preparations
- Structural identification and characterization of metabolites
- ADME in-vitro and in-vivo
- IVIVE, mechanistic PK/PD analysis, Toxicokinetics, TK modeling
- GLP standard of work

Laboratory Animal Science

- Program of animal care and use
- Support to in-vivo activities (rodent and non-rodent species): dosing and sampling, surgical models
- Animal models development
- Genetically modified mouse models: colony maintenance and phenotyping
- Ethical review of experimental protocols

Equipment and Techniques

- Electron Microscopy (ESEM & TEM)
- Confocal Microscopy
- MRI/MRS
- Taqman (RTPCR, DNA - reverse transcriptase-mRNA analysis)
- Accusampler - automated blood sampler
- Haematology and clinical chemistry analysis
- Gene expression
- Telepathology
- Echocardiography
- Genetic toxicology
- Metabolic profiling
- Longitudinal fMRI

Additional Aptuit Capabilities

Aptuit offers a comprehensive suite of drug development services that range from drug discovery through to market, including consultancy services, API development and manufacture, preclinical technologies, clinical sciences, pharmaceutical development services, large and small scale manufacturing, IVRS and clinical packaging and logistics, across a wide range of compounds, dosage forms and delivery systems.

For information about Aptuit’s services, please call or email:

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Engineering a better drug development process through scientific excellence.