



Library Synthesis

GVK Biosciences offers high quality, cost effective library synthesis services using parallel synthesis. We design and synthesize drug like templates and libraries of compounds. Our services comprise of library design, parallel medicinal chemistry services, compound characterization, purification, quality control, quantitative quality control, documentation and shipment. We have the capability to design focused libraries using computational chemistry.

Capabilities

Design

- Target based
 - Kinases (& other enzymes)
 - GPCRs
 - Ion-channel
 - Nuclear receptors
- Natural product based
- De-Novo libraries
- Enumeration

Synthesis

- Synthesize 600-700 compounds per month
- Synthesize molecules from 25 to 1500 compounds per library
- Use of 96-well plate platform
- One step to four steps synthesis depending on project requirement

Chemistry Expertise

(some representative reactions)

- Addition-elimination
- Condensation
- Hydrolysis, oxidation, reduction,
- Organometallic couplings (Suzuki, Stille, Heck, Buchwald's amination)
- Transmetalation
- Amine-sulfonic acid coupling
- Protection and deprotection of functional groups
- Acid-amine coupling

Infrastructure

- Tecan Freedom EVO-2 Liquid Handling System with Mettler Toledo balance
- LCMS analysis
- Mass Triggered Prep-HPLC
- Genevac (HT-4X, Eze2)
- Nitrogen Blow-down
- Waters UPLCMS for QQC
- Microwave (10-35ml): 48 stations
- 2D Barcode Readers
- Aluminum Reaction Blocks for Parallel synthesizers
- Hamilton Micro syringes
- Agilent Thermal Plate Loc Micro plate Sealer

Case Study

- **Project:** Synthesis of 30 membered benzoimidazole libraries with two point of diversity
- **Process:** Parallel synthesis, with Buchwald and acid-amine coupling
- **Deliverables:** Delivered 95% purity and 25mg final product within 4 weeks