

# ASSAY DEVELOPMENT AND SCREENING



## OUR CAPABILITIES, SKILLS AND EXPERTISE

### ASSAY DEVELOPMENT

— Development of functional, cellular, biochemical, as well as radiochemical, NMR, SPR and LC-MS assays

— Support all standard readouts including fluorescence, absorbance, luminescence and radioactive

— Proven expertise in the adaptation and miniaturisation of client assays. Over 320 assays developed to date

— Labelling chemistry, protein and cell production performed in an integrated fashion to increase efficiency

— Complex cellular models including primary and stem cell applications

### MEDIUM & HIGH THROUGHPUT SCREENING

— EVOscreen™: HTS conducted in 384 to and 2080 well formats using amongst others our Insight™ single molecule reader

— Functional assays available in multiple formats including FLIPR® and ELISA assay systems

— Track record of success with over 170 high throughput screens carried out including challenging targets such as ion channels and protein:protein interactions

### ION CHANNEL AND GPCR SCREENING

— Electrophysiology expertise from primary hit identification to safety pharmacology using automated and manual systems

— Access to DiscoverX's PathHunter™ & HitHunter™ assay technologies

### SCREENING LIBRARY

— High quality library consisting of 250,000 compounds, selected for diversity and containing over 90,000 non-commercially available compounds synthesised by Evotec

— Optimised compound storage for long term stability and regular analysis by LC-MS

— Continual addition of new high quality compounds

Evotec's proprietary screening platform, EVOscreen®, combines a highly sensitive detection technology with ultra high throughput. This facilitates assay miniaturisation and multiple read-out parameters thus reducing false positives and negatives. In addition, Evotec integrates other technologies to its screening platform, including nuclear magnetic resonance (NMR), surface plasmon resonance (SPR) and high content screening (HCS). Evotec has a strong track record in assay development and high throughput screening (HTS). As a result, it has developed in excess of 320 biochemical, cellular and functional assays and has completed over 170 screening campaigns. Evotec also provides access to its actively managed small molecule screening collection of 250,000 compounds, differentiated through its quality, novelty and diversity.

### NMR AND LABEL-FREE SCREENING

— Protein observed NMR measurements (HSQC, TROSY) with license to Abbott's SAR-by-NMR™ technology

— Ligand observed NMR measurements (e.g. STD)

— Additional capabilities including SPR (Biacore™) and mass spectrometry

### HIGH CONTENT SCREENING

— Opera™: State-of-the-art proprietary cellular imaging used for detailed intracellular analysis and pathway screening

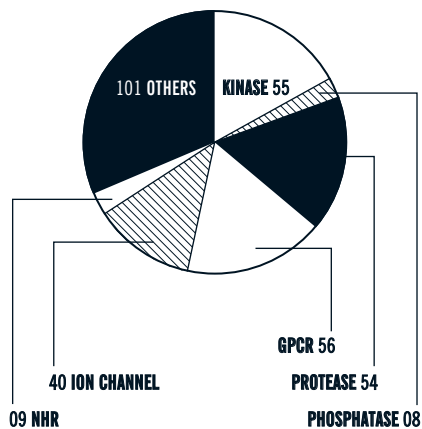
— Multi-colour and multi-parameter imaging with the distinct benefit of reducing false positives, and for instance, simultaneously measuring target activity and cytotoxicity / apoptosis

*EVOscreen®: Evotec's proprietary HTS technology combining ultra high throughput, high sensitivity and multiple read-out parameters thus reducing false positives and negatives*

Over 320 assays developed and 170 high throughput campaigns successfully completed

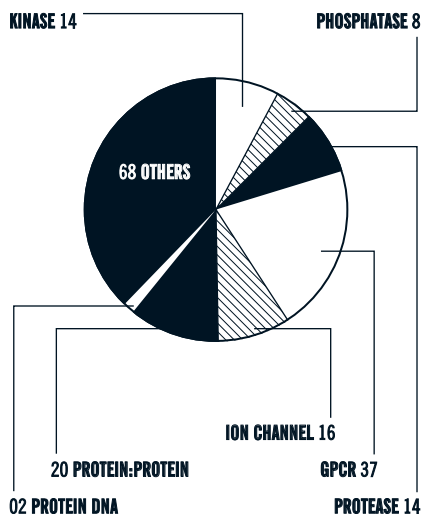
**ASSAY DEVELOPMENT**

- >320 assays developed
- Increasing percentage of cellular assays



**HIGH THROUGHPUT SCREENING**

- >170 uHTS screens



Case study: HTS delivers novel HDAC class III activators



- Evotec carried out reagent production, assay development and high throughput screening
- Biochemical assay technology performed on EVOscreen®, Evotec's proprietary fluorescent confocal spectroscopy platform, identified novel imidazothiazole cores that led to nM active compounds
- HP-AD001018-A07 was identified as a hit following primary screening
- Hit derivatisation and medicinal chemistry activities carried out by Sirtris is leading to the discovery of small molecule activators of SIRT1 as

- potential therapeutics for the treatment of type 2 diabetes
- For further details on this project, please read: *Nature, Volume 450, 29th November 2007*

