# The SULSA Assay Development Fund: a model for widening access to high throughput screening

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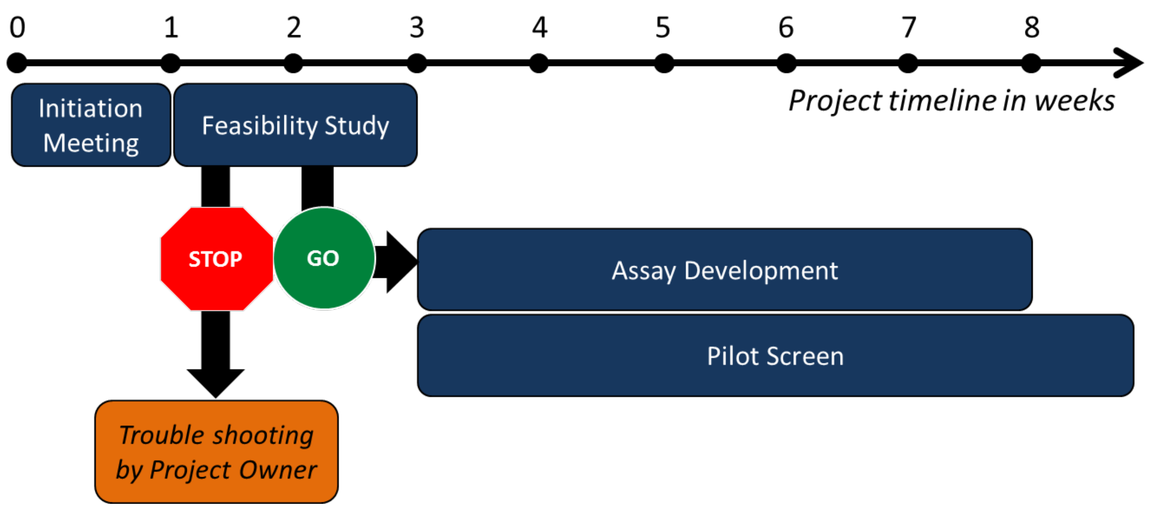
Translating novel molecular target discoveries from academia into drug discovery projects requires the development of high quality assays. During the course of most academic research the knowledge, experience and/or facilities for creating an HTS compatible assay are not readily available. To facilitate the development of high quality HTS-ready assays and increase the pool of potential drug discovery projects available to initiatives such as the European Lead Factory (ELF) the Scottish Universities Life Sciences Alliance (SULSA) established the SULSA assay development fund.

## Developing an efficient workflow



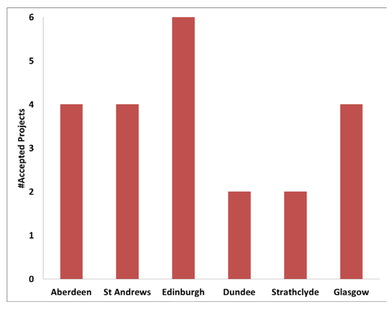

To maximise the impact of the modest funding a streamlined workflow was planned with key deliverables:

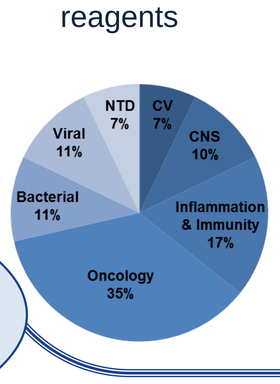
- Average time to delivery of a Standard Operating Procedure (SOP) of 8 weeks.
- A pilot screen of ~7000 compounds to validate assay robustness and provide an assessment of assay/target promiscuity.

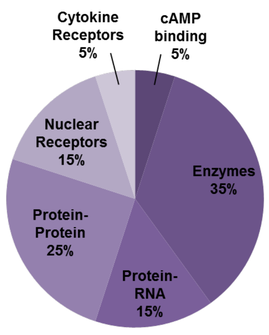
## Building a portfolio

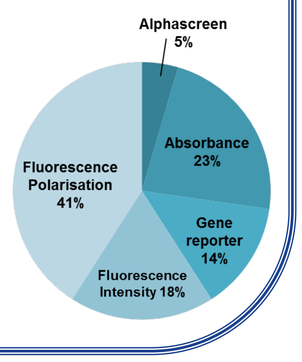
An open call for projects went out to all SULSA universities. Submissions were scored by a review panel against the following criteria:

- Scientific excellence
- Clear unmet medical need or potential for delivering a novel therapy.
- A clear rationale for developing an HTS-compatible assay
- Evidence of the availability of active reagents




## Knowledge Exchange

PhD students and postdocs from the POs' labs were given the opportunity to work at the ESC Newhouse on their assay development project. Three PhD students, one Masters student and two Postdoctoral researchers took part.

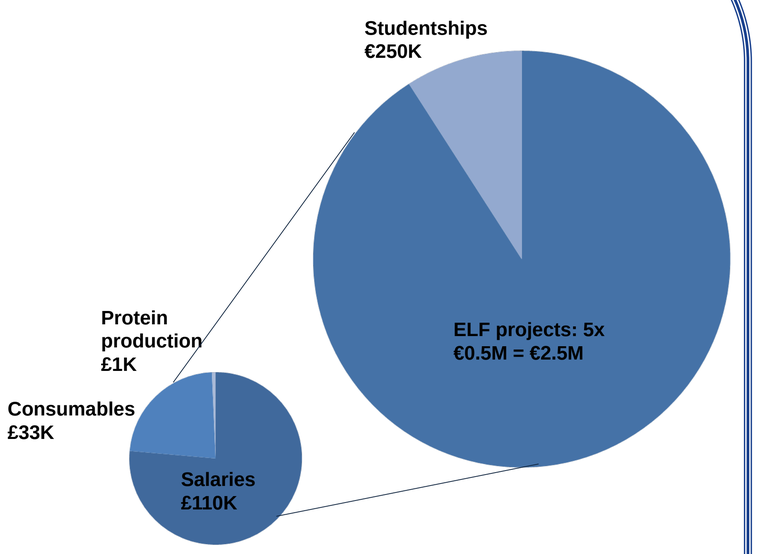
*"Being able to come and work at Newhouse where you are then surrounded by people who can identify quickly where assay improvements should be made and then pass on the knowledge of how to set about applying these changes (as well as gaining experience with various pieces of equipment) was invaluable. ." –* Laura Aitken, Postdoc, St Andrews University

*"Many of the jobs I have recently applied for include the development of molecular assays. With hands on experience in this process, my CV is certainly strengthened thanks to my time at Newhouse" –* Euan Parnell, PhD Student, Glasgow University

## Outcomes

The goals/deliverables of the assay development fund were mostly achieved or exceeded. Additionally there have been:

- **4 accepted peer-reviewed publications**
- **Validated hit molecules for multiple projects**
- **2 projects have reached QHL within ELF**
- **1 option triggered - interest from 3 EFPIA partners**
- **2 PhD studentships secured**
- **19 to 1 return on investment**




| | Target | Achieved |
|---|---|---|
| Average development time (weeks to SOP) | 8 | 8.9 (7.29 median) |
| Project recruitment | 18 | 22 |
| Wet work commenced | | 18 |
| Assays developed to ELF criteria | 12 | 14 |
| Projects submitted to ELF | 10 | 10 (1 in preparation) |
| Projects accepted by ELF | 6 | 5 (1 under review) |

McElroy SP, Jones PS, Barrault DV. he SULSA Assay Development Fund: accelerating translation of new biology from academia to pharma. *Drug Discov Today.* 2017 (2):199-203.