Cell Painting Set

Phenotypic screening is a powerful tool for identifying novel small molecules as probes and potential therapeutics as well as for identifying genetic regulators of many biological processes.

Cell Painting

In combination with high-throughput microscopy, a tremendous amount of data can be extracted from these cell-based images. However, as most large-scale imaging exercises aim to identify just a few predetermined hits, this leaves large quantities of data about cellular state untapped.

The Broad Institute of MIT and Harvard in Cambridge, Massachusetts, together with leading pharmaceutical companies and non-profit research organizations, also known as the Joint Undertaking in Morphological Profiling (JUMP) consortium, have developed Cell Painting. This is a generalizable and broadly applicable high-content image-based assay for accessing the valuable biological information about cellular response to treatments such as drug or genetic perturbations that is contained in cell morphology. A notable strength of cell painting is that a compound-induced phenotype can be described completely independently from the mode of action or target.

Compound library details

The list of compounds was derived from Broad's Drug Repurposing Hub dataset, a curated and annotated collection of FDA-approved drugs, clinical trial drugs, and pre-clinical tool compounds. Specs was able to source most of these repurposed small-molecule drugs and make them available for screening as a pre-plated set.

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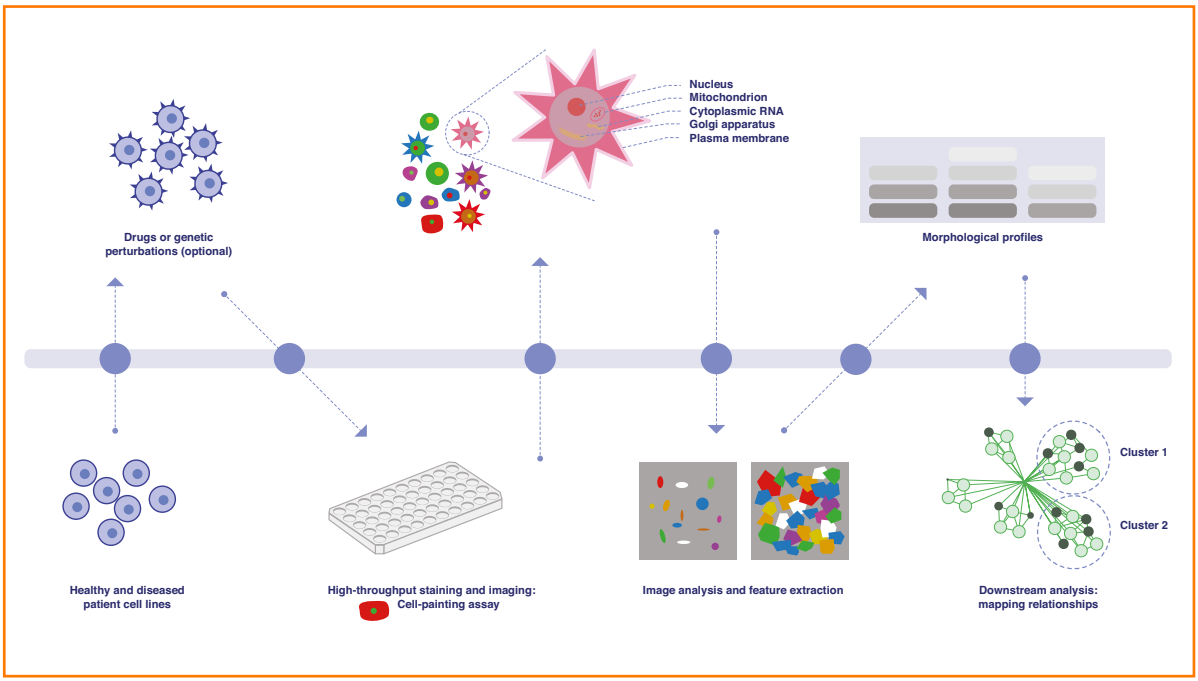
As an addition to our family of assay-ready, pre-plated compound libraries, Specs also offers the JUMP-Cell Painting libraries JUMP-Target and JUMP-MoA. The JUMP-Target library consists of 306 compounds while the JUMP-MoA library holds 90 compounds in quadruplicate, corresponding to 47 mechanism-of-action classes and are both designed to assess connectivity in profiling assays.

Both the JUMP-Target and JUMP-MoA compound library are available as a pre-plated set as a 10mM DMSO solution in 384-well plates that can be delivered on short notice. It is also possible to cherry-pick specific compounds from the database and have them shipped in any given format.

If you are interested in these JUMP-Cell Painting libraries or wish to receive any additional information, please contact us at info@specs.net



Specs · Bleiswijkseweg 55 · 2712 PB Zoetermeer · The Netherlands
p +31 88 525 51 11 · e info@specs.net · www.specs.net