ViQi HCS Pilot Screen

Pilot Program: Automated Drug Discovery Assays

Image analysis and visualization platform ViQi seeks researchers who want to apply AI to a pilot screen using a high-content analysis dataset. We are seeking pre-existing research-grade data to improve our products by using real-world examples of AIs in the lab.

This is a great opportunity for researchers who want to:
1. Use AI to bring to light what they haven't accounted for or discovered yet.
2. Demonstrate how they can get the same result with less expensive or time-consuming sample preparation and image requirements.
3. Broadly understand the benefits of AI to your work without incurring the risks of exploring that technology yourself or tailoring your workflows for AI.

Pilot Requirements
- Existing HCS dataset.
- Representative screen with ~1000-3000 high-quality images (20x - 60x+, 0-5 fluorescence channels, +/-brightfield) 2D or 3D. Conventional culture, organoids, explants, etc.
- 2-3 day turn-around for report

Example Pilot Screens

Target phenotype: e.g. viability, or other induced phenotype as one or more positive controls

Dose-Response: 5-20 compounds 4+ concentrations 3+ replicates, 4+ images per well

Phenotype similarity: 5+compounds/treatments, 3+ replicates to compare phenotype similarities using dendrograms for clustering, pair-wise distance matrix.

ViQi's multidisciplinary team has conducted several successful pilot screens.
Previous studies on 2D and 3D neuron cultures treated with environmental toxins and chemotherapy agents were able to identify compounds that affected neuron viability, as well as other phenotypic responses (SBI[2] 2020 poster).
Conventional dose-response compound screens were used to identify novel phenotypes not accounted for by positive controls.

Our primary interest is to improve our product with your feedback, so we are seeking no commitments to buy our products, to share your data with third parties, or to allow your data to be used in any future products. This pilot is no-cost, run using secure protocols, and your data is kept strictly confidential.

Partner Prerequisites

● Image data with a plate map of controls, compounds and concentrations as a spreadsheet or figure.
● Provide feedback on the process of working with us, workflow, and results.
● Allow anonymized data to be shared for publication to expand knowledge in the field of HCS

ViQi's Commitment

● Run AI assays in one or a combination of target phenotype, dose-response, or phenotypic relationship screens.
● Share data and answer questions about how AI was applied to your dataset.
● Quantitative analysis and report as violin plots, dendrograms, and tables.
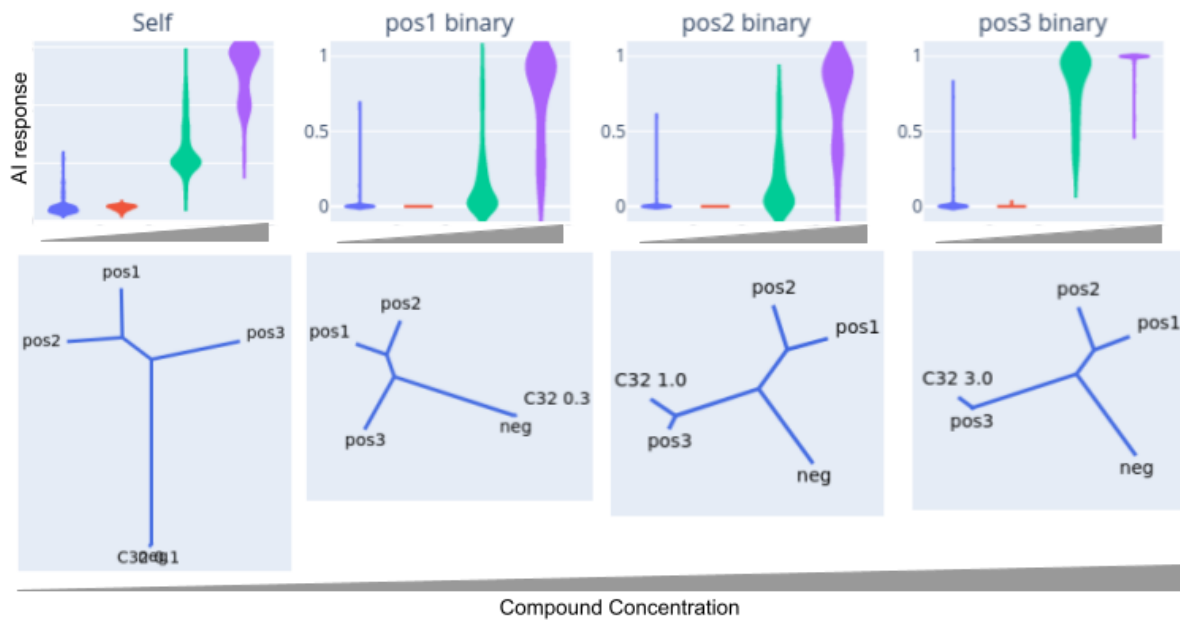
Example pilot screen: Download our SBI2 conference poster co-authored by ViQi and Molecular Devices.

Interested? Get in Touch

For expressions of interest or questions, contact:

Dr. Ilya Goldberg, ViQi Chief Science Officer
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About ViQi, Inc
ViQi provides large-scale image analysis and visualization expertise and cloud-based software for pharmaceutical and biotech companies, and contract research organizations. More: viqiai.com

HCS Screening Partners Timeline

Thank you for your interest. This is an outline of the pilot and what you can expect.

Estimated data prep time: 🕐 **1-2 hours. Total ViQi team meeting time: 2-3 hours**

Preparation

1. ViQi will send a Material Transfer Agreement for e-signature.
2. ViQi will schedule a 1-hour meeting to:
   a. Understand objectives and setup, and establish assay goals.
   b. Develop dataset and metadata transfer protocol.
3. Researchers will upload image and experimental data (individual files and/or folders) to ViQi's file drop (https://filedrop.viqi.org/).
4. If necessary, ViQi will schedule a half-hour meeting for clarification of objectives, setup, and data management.

AI Assays Run

It will take ViQi approximately 2-3 days to run the AI assays on the dataset. ViQi will apply its proprietary AI training algorithms to automatically optimize and train the best AI models and use them to quantify phenotypic responses to compound treatments.

Assay Report and Demonstration

ViQi will schedule a 90-minute meeting to share findings and demonstrate how the AI assays were run on the dataset.

Feedback Meeting

ViQi will schedule a 1-hour meeting to interview researchers about the process, workflows, and working with ViQi.

Final Report Delivery

Researchers will be provided a summary of the pilot study and an export of data collected in PDF, HTML and CSV files based on all learnings from analysis and meetings.

YOUR NEXT STEP
Email Dr. Ilya Goldberg at ilya@viqiai.com and let us know about your pilot screen.