

The problem

In pharmaceutical development naturally occurring human genetic variation often limits effectiveness of a given drug, often discovered in the course of a clinical trial.

Cancer diagnostics companies use sophisticated gene sequencing to determine the course of treatment. However, only a very small fraction of genetic mutations in cancer driver genes have a known functional interpretation. Another area diagnostics companies actively seek is new diagnostic markers, in particular mutations in gene promoter regions which have been previously poorly-studied.

Our technological solution

Using Heligenics GigaAssay technology, we create a gene mutation library (GML) measuring functional impact of 100,000's of mutants in only 3 months. In pharmaceutical development with a drug candidate we can determine which human gene mutations likely reduce efficacy, cause resistance, or increase cell toxicity. This can either assist selection of lead compounds, or define genetic groups in the context of a clinical trial. For drug candidates that have failed clinical trials, we can analyze which existing population variants in the human population affect the safety or clinical efficacy profile.

For diagnostic interpretation Heligenics can eliminate the vast number of what are called Variants of Unknown Significance (VUS). Also for diagnostics customers we offer biomarker discovery by analyzing the function of variants within gene promoter regions, which lead to innovative diagnostic offerings for cancer and other common diseases.

Intellectual property

Heligenics has exclusive rights to the patent-pending GigaAssay, along with proprietary know-how. The GigaAssay capabilities are unique in the market.

A pair of target markets

One key market for us are pharmaceutical companies all along the spectrum of drug development from pre-clinical through regulatory approval. A second key market are cancer diagnostic companies that perform high-throughput cancer gene panel testing, who need this valuable catalog of data to aid in their interpretation as well as opportunities for developing new classes of diagnostics. We calculate our Total Available Market to be \$6.7B.

The team

Founded in 2018 by a seasoned management team of technical professionals, Heligenics management includes Dr. Martin Schiller, CEO and Chairman, John Loomis COO, Nephi Sanchez Financial Advisor, and Dale Yuzuki CCO. Dr. Schiller has founded and managed four companies, invented the GigaAssay, has published over 70 scientific papers and has received over \$30M in NIH grants. John Loomis, MBA (COO) is an engineer with 40 years of business experience and 21 years as an executive. Nephi Sanchez (financial manager, MBA) has been CFO of several companies. Dale Yuzuki (M.A.) is genomics industry expert with 20 years of experience.

Contact information

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