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Heligenics & The Jackson Laboratory Announce New Collaboration on *ERBB2* Breast Cancer Gene

Includes licensing of custom Heligenics Gene Mutation/Function ERBB2 library for the JAX Clinical Knowledgebase

Las Vegas, NV: Heligenics, Inc. today announced a new collaboration with The Jackson Laboratory (JAX). This joint project will make available the functional output of Variants of Unknown Significance (VUS) throughout key portion of the *ERBB2* gene through the JAX Clinical Knowledgebase (CKB), a digital resource that connects clinicians and researchers around the globe in order to interpret complex cancer genomic profiles.

"This is a fabulous partnership that will help modernize and expand variant interpretation for key cancer genes," says Dr. Martin R. Schiller, CEO at Heligenics. "JAX is bringing a lot to the table and is a valued partner."

Heligenics' proprietary GigaAssay process measures causal functional impact of all mutants in a gene in 4 to 5 months while it takes other technologies decades to identify just a single marker. This collaboration will lead to future clinical trials, research grants, and publications to advance the fight against cancers, offering patients hope by identifying actionable ERBB2 variants for potential treatment.

CKB currently provides extensive information relevant to interpretation of cancer-related genomic data, including thousands of genevariant descriptions, therapies, as well as evidence of therapeutic efficacy, accessbile through a web-based application.

JAX-CKB can help increase clinician confidence in completeness and accuracy of the information related to the patient's tumor genomic profile. For translational and clinical researchers, JAX-CKB provides thousands of literature citations, FDA drug labels, and clinical trials relative to a tumor's genomic mutational profile, resulting in a clear and up-to-date picture of discoveries and active developments for a variety of biomarkers.

"Heligenics' GigaAssay technology has the potential to advance genomic interpretation, and we are excited for the opportunity to provide large scale interpretation of previously unknown genomic variants to our users, with the hope of connecting patients to relevant treatment

options that otherwise may not have been identified," says Sara Patterson, Ph.D. manager, clinical analytics and curation at JAX.

The benefits of this new collaboration include:

- Identifying the impact of thousands of poorly understood *ERBB2* mutations
- Enhancing the understanding of how *ERBB2* mutations cause various types of breast and other cancers, including gastric cancer
- Testing of 95% of possible mutants being tested for functional impact in 5 months – a dramatic improvement over today's less than 8% of possible *ERBB2* mutants characterized after more than 25 years of study
- Analyzing, retrospectively, how the gene mutation/function library data can improve patient outcomes
- Providing additional insight into breast and other cancers caused by these genetic mutations through a collaboration of research and publications

"This collaboration with Heligenics will allow us to define new therapeutic targets for cancer patients," said Jens Rueter, M.D., medical director at JAX's Maine Cancer Genomics Initiative (MCGI). "Ultimately, this has the potential to lead to new treatment options for cancer patients, including the many patients and families affected by cancer in Maine."

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Heligenics: Heligenics Incorporated, founded in 2018 to uncover the function of genetic variants on a massive scale for improved diagnostics and improved clinical trial design for developing new drugs.

Heligenics' key technology, the GigaAssay, was invented in the laboratory of Dr. Martin Schiller at the University of Nevada – Las Vegas where he leads the Nevada Institute of Personalized Medicine. As the effect of most mutations on gene function is largely unknown, Heligenics comprehensively measures the functional significance of mutations in the human genome and has exclusive rights to the patent pending GigaAssay technology. To learn more, please visit www.Heligenics.com

The Jackson Laboratory (JAX): Founded in 1929, JAX pioneered the use of mice as models for human disease. As an independent, 501(c)3 nonprofit biomedical research institution, JAX uniquely integrates its deep experience in mouse genetics with ground-breaking advances in human genomics to decipher the biological and genomic causes of human disease and drive medical progress.

JAX research breakthroughs have formed the foundation of modern medicine. Organ and bone marrow transplants, stem cell therapies, and in vitro fertilization all have a foundation in JAX research, and at least 26 Nobel Prizes are associated with JAX research, mouse models, and education programs.