What is MiraKind?

MiraKind is a non-profit organization that brings important genetic discoveries from research labs to patients, doctors and the public. Founded by Joanne Weidhaas, MD, PhD, MiraKind validates newly discovered genetic markers based on microRNA biology to determine the best clinical applications that enhance health and longevity. We invite everyone to partner with us in this mission by participating in research studies, making a financial contribution, and helping to spread the word.

What We Do

Every year, scientists around the world discover hundreds of potentially important genetic markers that could benefit millions of patients. Unfortunately, very few of these discoveries make it beyond the research lab for "validation", which requires an independent evaluation of clinical utility that goes beyond the scope of most academic centers and/or academic researchers. In addition, these discoveries are deemed too "high-risk" to be picked up by for-profit companies and thus remain on the shelf, never reaching the patients who could benefit from them.

MiraKind is working to change this by accelerating validation of important genetic discoveries rooted in microRNA biology, a burgeoning area of research that is enabling breakthroughs in cancer biology and has the potential to drastically improve treatment and prevention of many, if not all, cancer types.

Our research is patient-centered from start to finish. We seek to break down perceived silos between doctors, scientists and patients by partnering together to unearth new insights and applications. We also seek to empower patients with information to make the right decisions about their health and lifestyle. Our research is guided by one question: How can we enhance health and longevity and prevent disease for all individuals?

Current Research

Our current research focuses on the KRAS-variant, an inherited, genetic marker that has significant implications for women's health, predicting endometriosis and associated infertility, breast, ovarian and lung cancer, and unique response to agents used to treat these problems.

The KRAS-variant is...

- Associated with more cancer than any other known inherited mutation.
- Associated with advanced endometriosis and infertility.

- Associated with a lifetime risk of breast cancer of > 20%, supporting eligibility for higher-level screening.
- Associated with risk of developing multiple cancers in the same individual — the KRAS-variant is found in 50% of women with three separate cancers.
- Usually associated with post-menopausal ovarian cancer, allowing the opportunity for ovarian cancer prevention without lifestyle impact.
- The genetic cause of cancer for over 50% of Hereditary Breast and Ovarian Cancer (HBOC) families without other known genetic causes, allowing relatives to be tested for a marker to know if they have inherited risk.

Recent studies suggest that individuals with the KRAS-variant respond differently to certain hormonal exposures throughout their lifetime. We are working to understand how things like birth control pill use, child birth, in vitro fertilization, hormone replacement therapy and other exposures can influence disease risk for KRAS-variant individuals.

We invite everyone to partner with us by enrolling in research studies, making a financial contribution, and helping us spread the word about our work. Visit mirakind.org to learn more.

Join us and help humankind!
www.mirakind.org

Relevant research for you and your doctor:

Chin, L., E. Ratner, et al. (2008). "A SNP in a let-7 microRNA complementary site in the KRAS 3' untranslated region increases non-small cell lung cancer risk." Cancer Res 68: 8535-8540.
Link: http://www.ncbi.nlm.nih.gov/pubmed/18922928

Grechukhina, O., R. Petracco, et al. (2012). "A polymorphism in a let-7 microRNA binding site of KRAS in women with endometriosis." EMBO Molecular Medicine 4: 206-217.
Link: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3376847

Paranjape, T., H. Heneghan, et al. (2011). "A 3'-untranslated region KRAS variant and triple-negative breast cancer: a case-control and genetic analysis." Lancet Oncology.
Link: http://www.ncbi.nlm.nih.gov/pubmed/21435948

Pilarski, R. (2012). "A KRAS-variant is associated with risk of developing double primary breast and ovarian cancer." PLos ONE 7(5): e37891.
Link: http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0037891

Ratner, E., F. Keane, et al. (2012). "A KRAS variant is a biomarker of poor outcome, platinum chemotherapy resistance and a potential target for therapy in ovarian cancer." Oncogene 31(42): 4559-4566.
Link: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3342446/

For more information, please visit mirakind.org.