Within weeks of the Supreme Court’s historic decision declaring that human genes cannot be patented, two scientists have started a company that will democratize the human genome and give people direct access to their own genetic information – which can have an immediate impact on their health and well being. The court’s decision in Association for Molecular Pathology v. Myriad Genetics, on June 13th, 2013, opened an era of genomic liberty, allowing people to look at the DNA for all of their genes – which had been hidden behind patent walls for companies that had a monopoly on such testing.

The court’s decision spurred the two scientists, Professor Christopher Mason of Weill Cornell Medical College and Professor Jeffrey Rosenfeld of Rutgers, to form Genome Liberty, Inc. and begin offering immediate, personalized genetic testing to the public that can be directly ordered by patients – although the results should used in concert with your doctor. Our next-generation sequencing technology allows individuals to be proactive in understanding how their genome can affect their health decisions.

Genome Liberty, with the Supreme Court’s blessing, ushers in a new paradigm of personalized medicine, which complements the traditional health care model. Previously, individuals had to rely on their doctors to understand their health and to make proper medical decisions for them. Recently, people are becoming more involved in their own health care, in a phenomenon called “participatory medicine.” Various organizations, including patientslikeme.com and the Society for Participatory Medicine, have been leading the charge in this field to overcome inherent weaknesses in our medical system. Many people have found that drugs do not work for them, and they have formed patient groups to attempt to help each other. And, as scientists and doctors have found the molecular basis for disease and drug response, it has become increasingly clear that a “one-size-fits-all” framework for medicine is not in the best interest of each patient.

Genome Liberty fills an important void in our current medical system. For example, there are clear genetic markers for many medications that will determine whether a person will respond properly or may have extreme side-effects. This includes codeine, Plavix, Nexium, Prilosec, Zocor, Dilantin, Coumadin, Haloperidol, Abilify, and Celexa. These conclusions are supported by numerous scientific publications, official reports from the Food and Drug Administration (FDA), and agreed upon by experts in the fields of genetics and pharmacology. But, such tests are very rarely performed before a drug is prescribed, even though they can have an immediate and beneficial effect for treatment.

Such genetic tests have distinct advantages. They overcome most doctors’ insufficient understanding of, and even fear of, genetics and genetic testing. Two recent studies involving researchers from the University of Pennsylvania and Columbia University found that >64% of physicians do not feel they have sufficient understanding of genetics to order, or interpret, such tests.

To aid patients amid the current medical infrastructure, Genome Liberty will work directly with consumers as well as doctors to offer our Gene-Drug Interaction Test. Here is how the test works:

- A customer (1) orders the test on our Web site, (2) receives a saliva-collection kit, (3) provides a saliva sample and (4) mails it to Genome Liberty’s certified medical lab. Our lab extracts the DNA and tests it for the genetic variants corresponding to drug responses.
- The customer receives a full report within 2 weeks to bring to their physician outlining the medications that are recommended and discouraged based upon an individual’s specific genetic profile.
- The same information contained in the report to the physician is included on a wallet card and an iPhone/Android app so the patient always has the results handy when medicine needs to be prescribed.
The test costs only $99, provides information for a lifetime, and covers hundreds of frequently prescribed drugs. The test also looks for a condition known as Factor V Leiden that can cause dangerous blood clots when women who have this condition take estrogen, either for birth-control or hormone replacement. Many of these tests are encouraged by the FDA on the drug label, but they are not widely requested.

The test provides only immediately useful information. Many people are wary of having a genetic test performed because they do not want results that will scare them. Some people do not want to be told that they are at high risk for Alzheimer's or Huntington's disease, which are currently untreatable. For this reason, Genome Liberty’s primary focus is on actionable genetic information to help you make smart medical choices.

**About the Founders**

Genome Liberty’s co-founders, Christopher Mason and Jeffrey Rosenfeld, are established leaders in genetics and the use of advanced technologies to improve human health. Their work has been profiled on CBS Nightly News, Nature, Science, Cell, Reuters, CBC, Fox News, Newsday, The New Yorker, and dozens of scientific and medical news outlets. Drs. Mason and Rosenfeld have published over 60 peer-reviewed articles in top-tier medical journals and have vast experience in human genome interpretation. Dr. Mason served as an expert witness for the successful plaintiffs in the recent 9-0 Supreme Court case, and he continues to aid both political and legal interpretation of genetics and genomics.

Dr. Mason completed his B.S. in genetics and biochemistry from the University of Wisconsin-Madison in 2001, his Ph.D. in Genetics from Yale University in 2006, and his post-doctoral training at Yale Medical School in 2009. In 2009, Dr. Mason founded his own lab at Weill Cornell Medical College in Department of Physiology and Biophysics. Professor Mason teaches classes for the Tri-Institutional M.D./Ph.D. Program between Cornell, Memorial Sloan-Kettering Cancer Center and Rockefeller University and also has an appointment at the Weill Cornell Cancer Center. Dr. Mason is also a fellow of the Yale Law School’s Information Society Project, where he examines the legal implications of genomics technology.

“A better understanding of the genetic basis of health and disease can improve the detection, characterization, and treatment of disease that can improve and lengthen lives,” Dr. Mason said. “Genome Liberty will lead us into a new era of medicine.”

Dr. Rosenfeld did his undergraduate work in biology and computer science from the University of Pennsylvania in 2001. For his graduate work, he received his Ph.D. from New York University while performing his dissertation research at the Cold Spring Harbor Laboratory. Dr. Rosenfeld is an assistant professor at the Rutgers New Jersey Medical School in Newark, N.J., where his research focuses on human genome variation. Dr. Rosenfeld is also a research associate at the American Museum of Natural History in New York where he is spearheading the effort to sequence and annotate the genome of under-studied organisms. He is a member of the 1000 Genomes Project and a co-chairman of the group aimed at identifying complex sequence variations in human genomes.

“My goal for Genome Liberty is to allow individuals to have control over their genetic information and to use it to improve their health decisions,” Dr. Rosenfeld said. “It is extremely problematic that people are being given medications that can harm them without doctors preemptively performing simple, accurate tests to check for these side effects. I hope that individuals will be empowered to become part of their medical decision making process.”