

BIO664

IP and Tech Transfer

Patenting Genes

BRCA 1 &2 are tumour suppressor genes, specific mutations of which were shown to directly be linked to increased risks of developing breast and ovarian cancer. The genes and their mutations were patented by Myriad Genetics, a for-profit molecular diagnostic company. The patents covered genetic sequences, as well as methods and diagnostics kits derived from these sequences, and became the sole US provider of such diagnostics.

For those testing positive, there are cost-effective approaches to chemoprevention screening, and prophylactic surgery. However, the benefits of prophylactic chemotherapy could not be established.

Myriad had submitted over 18,000 entries (>80% of total entries) for over 2,600 unique mutations to the Breast Cancer Information Core database, and this information has resulted in more than 100 collaborations with independent investigators.

Medical associations, doctors and patients sued the company.

Parts of the patent (only the DNA sequence and not downstream products from it) were ruled invalid by district judge. The reasons given for invalidating the patents were based on long-standing concerns in scientific community that gene patents inhibit research and slow innovation. Furthermore, the district judge noted that this was just a diagnostic, with no drug development, and the diagnostic cost went from \$1600 to \$3100, while less expensive alternative testing strategies were available. Costs of genetic counseling were not included in the tests. This resulted in fewer women getting tested because of inadequate insurance coverage.

What are the economical issues for/against gene patenting?

What are legal issues for/against gene patenting?

What are ethical issues for/against gene patenting?