

The key dates

1989	The <i>Breast Cancer Linkage Consortium</i> was founded , associating numerous European and American research laboratories, on the initiative of Gilbert Lenoir, a French researcher then working at the Centre International de Recherche sur le Cancer (CIRC), the international center for cancer research, in Lyon
1990	BRCA1 , the first breast and ovarian cancer predisposing gene, was localized by a team from the Consortium.
1991	<i>Myriad Genetics</i> , a medical genomics company, was founded by Mark Skolnick, a researcher at the University of Utah and a member of the Consortium.
1994	BRCA1 was identified by <i>Myriad Genetics</i> who was granted U.S. patents.
1995	BRCA2 was identified by British teams. <i>Myriad Genetics</i> subsequently acquired the exclusive license for BRCA2 from the American corporation <i>OncorMed</i> . <i>Myriad Genetics</i> applied for patents in Europe.
1996	The first BRCA tests were marketed in the United States.
1998	European geneticists, including Dr Dominique Stoppa-Lyonnet (Institut Curie), were invited to Salt Lake City to visit <i>Myriad Genetics</i> laboratories and “testing plant.” During that visit, the American managers set out their claims (monopoly of testing, prices for their services, etc.).
January 10, 2001	The European Patent Office (EPO) granted <i>Myriad Genetics</i> a first patent (EP 699 754) covering any methods of diagnosing a predisposition for breast and/or ovarian cancer using the normal sequence of the BRCA1 gene.
May 23, 2001	The EPO granted <i>Myriad Genetics</i> a second patent (EP 705 903) relating to the BRCA1 gene as mutated (34 specific mutations) and to diagnosis methods for detecting such mutations and thus for showing up a predisposition.
June 1, 2001	The Institut Curie’s Oncological Genetics Department, directed by Dr D. Stoppa-Lyonnet, detected in an American family a degradation in the BRCA1 gene that was not detected by <i>Myriad Genetics</i>. The industrial method used by the American company allows from 10% to 20% of the mutations to go undetected because it does not enable large-size mutations to be detected.

Opposition to the first Myriad Genetics patent

- September 6, 2001** **The Institut Curie declared its opposition to *Myriad Genetics* having a monopoly** over tests for predisposition to breast and ovarian cancer by instigating proceedings with the EPO.
- Roger-Gérard Schwartzenberg, the French Minister for Research, and Bernard Kouchner, French Minister for Health, declared their support for the Institut Curie's initiative, and considered extending the French system of automatic or *ex officio* licenses ("licences d'office") to genetic diagnosis.**
- October 4, 2001** **The European Parliament announced in a resolution its backing for the French initiative** and associated itself "*with the institutions who, like the Institut Curie, are making provision to put up objections to the granting of these patents (...),*" and invited "*the other institutions of the European Union and the governments of the Member States to do likewise.*"
- October 9, 2001** **The Assistance Publique – Hôpitaux de Paris (public Paris hospitals authority) and the Institut Gustave-Roussy associated themselves with the opposition proceedings initiated by the Institut Curie,** which also received active support from the Fédération Nationale des Centres de Lutte Contre le Cancer (French federation of centers for combating cancer), and from the Fédération Hospitalière de France (hospital federation of France). The notice of opposition to Patent EP 699 754 was formally filed with the EPO.
- An opposition was also filed by the Belgian Human Genetics Society, associating the Belgian and Dutch human genetics centers, and the German, Danish, and British genetics societies,** the arguments of that opposition being similar to those put forward by the French opposition.
- November 28, 2001** **The EPO granted *Myriad Genetics* a third patent (EP 705 902)** relating to the BRCA1 gene itself, and to the corresponding protein. The general claims of that patent relate to therapeutic applications of the BRCA1 gene, such applications not yet existing (gene therapy, screening of drugs, production of proteins, transgenic animals, etc.) and to diagnosis kits.

Opposition to the second Myriad Genetics patent

- February 22, 2002** **The Institut Curie, the Assistance Publique–Hôpitaux de Paris and the Institut Gustave-Roussy, with support from the Fédération Nationale des Centres de Lutte Contre le Cancer and from the Fédération Hospitalière de France, filed an opposition to Patent EP 705 903 held by *Myriad Genetics*** since May 23, 2001. That patent, like the preceding one, relates to diagnosing a predisposition for breast and/or ovarian cancer. It relates to the BRCA1 gene as mutated (34 specific mutations) and to the methods of detecting such mutations.
- The Belgian Ministries of Health, Social Affairs, and Scientific Research, the Dutch Ministry of Health, the Belgian and Dutch human genetics centers, and the German league against cancer and Greenpeace Germany also filed an opposition to that patent.**

March 2002

In the U.S. Congress, a Bill aiming to exclude genetic testing from the field of patents was introduced by Lynn Rivers, Representative for Michigan.

The object of that Bill is to limit the claims of patent holders in the field of the genetic diagnosis so as to reduce the negative impacts both on medical practice and on research. The ultimate aim is to put these diagnosis tools at the disposal of the entire healthcare system while also enabling physicians and researchers to continue to perfect the testing techniques.

June 2002

In the United States, *Myriad Genetics* sparked off a controversy by launching an advertising campaign through direct mailing to women, recommending that they ask their physician for a predisposition test. Alongside that campaign, Myriad Genetics launched a vast campaign reaching 200,000 general practitioners.

Opposition to the third Myriad Genetics patent

August 27, 2002

The Institut Curie, the Assistance Publique–Hôpitaux de Paris and the Institut Gustave-Roussy followed up their action instigated against Myriad Genetics 12 months earlier by filing an opposition to Patent EP 705 902, granted on November 28, 2001.

This third patent held by the American company is a very broad patent relating to the gene and to the protein, to therapeutic uses that do not yet exist, and to diagnosis kits.

The notice of opposition statement was formally filed with the EPO in the name of the three co-opponents on August 27, with the support of the Fédération Nationale des Centres de Lutte Contre le Cancer and the Fédération Hospitalière de France.

A collective European opposition was also filed by the Belgian human genetics society, associating the Belgian and Dutch human genetics centers, the German, Dutch, Czech, Swiss, Austrian, Italian, Finnish, and British genetics societies, the Greek national scientific research center, the Swiss institute for applied cancer research, and two patients associations (in Belgium and Holland). **The Dutch and Austrian health ministers**, the Swiss social democrat party, Greenpeace Germany, and Dr Wihelms (Germany) also filed a notice of opposition to the 3rd patent.