

## 16. International Cancer Genome Consortium (ICGC)

### MUNICIPALITY

Barcelona

### HEADING

At the ICGC, Spanish researchers have for the first time related cancer to failures in chromosome protection.

### IDENTIFYING DETAILS

- Planned budget, 2009-2014: €15 M
- The project's sequencing activity is carried out at the new National Genome Analysis Centre, located at the University of Barcelona (UB) Science Park.

### PROJECT DESCRIPTION

The Chronic Lymphatic Leukaemia Genome Project, involving over seventeen institutions, aims to sequence the complete DNA of tumour cells to discover what genetic alterations they cause in their development and progression. With this information it will be possible to predict which patients will respond best to each treatment and so select the most suitable therapy in every case.

During 2013 a study was published in the *Nature Genetics* journal that explored a new mechanism which may contribute to the development of several tumours, including Chronic Lymphatic Leukaemia. The researchers found that 3.5% of patients with CLL present mutations in POT1, but this figure goes up to 9% in the subgroup of patients with a particularly aggressive form of the illness. This means that the study identifies POT1 as one of the most important genes in the illness.

One of the most surprising finds of the consortium's studies is the great genetic and molecular diversity of the illness. The mutated genes are identified in relatively small subgroups of patients with different characteristics in their illness. In fact, the most-repeated mutations only occur in 15% of patients. However, their identification represents a great advance, as a step towards the objective of personalised therapies, adapted to the genetic profile of each tumour.

The fact that part of this project is being carried out in Barcelona is a sign of the prestige that the city's research in general, and biomedical research in particular, is acquiring in international circles. It therefore denotes the competitiveness and capacity for international cooperation both of Barcelona's researchers and their leaders, and of the projects they are engaged in.

### PROJECT ADDRESS

[www.cllgenome.es](http://www.cllgenome.es)

### RESPONSIBLE

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