

A new mouse model for the study of neurofibromatosis

April 16 2015

The research group of the neurofibromatosis of the Catalan Institute of Oncology (ICO), the Institute of Biomedical Research of Bellvitge (IDIBELL) and the Institute of Medicina Predictive and Personalized Cancer (IMPPC) has developed new mouse models for the study of principal malignant tumor associated with neurofibromatosis type 1.

Details of the development and characterization of new animal models have been published in *EMBO Molecular Medicine*.

Neurofibromatosis, a rare and minority

The neurofibromatosis are disorders of the nervous system that primarily affect the development and growth of neural tissue cells.

Neurofibromatosis type 1 is the most common form, affecting one in 3,500 people, approximately. It is caused by mutations in the NF1 gene, located on chromosome 17. The involvement of this gene can cause a diverse range of health problems, such as tumors on the skin and nervous system.

In this sense, the primary malignant tumor associated with [neurofibromatosis type 1](#) is called malignant tumor of the peripheral nerve sheath. It belongs to the group of soft tissue sarcomas, there is no effective treatment and is associated with poor survival.

New animal models

ICO-IDIBELL-IMPPC team has created what is called orthotopic tumor models, ie have successfully implanted human tumor mouse relevant body and develop as you would in person.

The *EMBO Molecular Medicine* study shows how the [animal model](#) reproduces histological, genetic and epigenetic human tumor characteristics and patterns of spread, which is not achieved with other methods of implementation.

Until now there were no animal models based on direct transplantation of primary tumors originating in these patients. This group has generated five different models using immunosuppressed mice implanted with [malignant tumors](#) of peripheral nerve sheath in the same tissue where the tumors originate in humans.

These animal models allow a better study of tumor and promote personalized medicine. If required, you might have a mouse with tumor of each patient so that you can predict how it will develop and decide in each case what the most appropriate treatment for each patient will be.

Provided by IDIBELL-Bellvitge Biomedical Research Institute

Citation: A new mouse model for the study of neurofibromatosis (2015, April 16) retrieved 24 April 2024 from <https://medicalxpress.com/news/2015-04-mouse-neurofibromatosis.html>

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