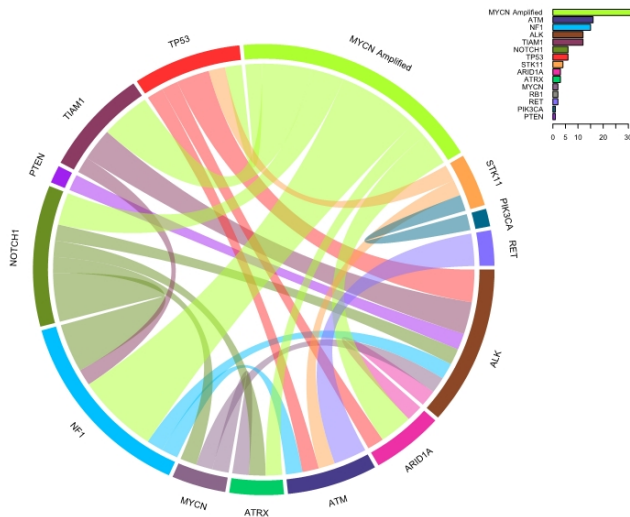


# A new molecular target to improve neuroblastoma treatment

22 May 2017



Circos diagram showing concomitantly mutated genes and/or MYCN amplification. Credit: University of the Basque Country

The annual mortality rate in childhood cancer of the sympathetic nervous system, or neuroblastoma, is 10 per million between the ages of zero and four. A collaborative work between Basque and Valencian researchers has identified some genetic mutations that could improve the treatment of this disease.

Researchers at the Instituto de Investigación Sanitaria La Fe identified mutations in the Tiam1 gene that predict a better prognosis for [neuroblastoma](#) patients.

A neuroblastoma is a solid, extracranial tumour more frequent in childhood. It accounts for 7 percent of all [pediatric cancers](#) and is the cause of 15 percent of the total number of deaths resulting from oncological processes in childhood. The incidence of it ranges between eight and 10 cases per million children. Family cases of

neuroblastoma have been described, but they are extremely rare. Right now, it is not known how this rare type of cancer originates.

The study reveals that the mutations that anticipate the progression of this disease are located in various Tiam1 domains related to the Ras and Rac GTPases and also with Myc; all these proteins are involved in the aetiology and progression of this type of [cancer](#).

The results have been published in the journal *Oncotarget*. These results suggest that the signalosome controlled by Tiam1 may be essential in the development of the neuroblastoma and, therefore, Tiam1 is positioned as a target that could help to improve the effectiveness of neuroblastoma treatment.

The next step is to incorporate these studies into clinical practice to improve the tools and procedures in the diagnosis with a view to implementing earlier treatments for the children affected.

**More information:** Elena Sanmartín et al. TIAM1 variants improve clinical outcome in neuroblastoma, *Oncotarget* (2017). DOI: [10.18632/oncotarget.16787](https://doi.org/10.18632/oncotarget.16787)

Provided by University of the Basque Country

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