

New therapeutic target for most common solid cancer in childhood?

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A team of researchers, led by Patrick Mehlen, at Université de Lyon, France, has identified the protein NT-3 and the cell-surface molecule to which it binds (TrkC) as potential therapeutic targets for the treatment of neuroblastoma — the most frequent solid tumor in young children— by studying human neuroblastoma cells in vitro and after xenotransplantation into mice and chicks.

In the study, NT-3 was found to be expressed at increased levels in aggressive human neuroblastomas and to block the ability of TrkC to induce tumor cell death by a process known as apoptosis. In vitro analysis of human neuroblastoma cell lines indicated that both decreasing NT-3 expression and culturing in the presence of an antibody that blocked NT-3 binding to TrkC triggered the cells to undergo apoptosis.

More importantly, blocking the NT-3/TrkC interaction inhibited [tumor](#) growth and metastasis in both a chick and a mouse xenograft model of neuroblastoma. The authors therefore suggest that disrupting the NT-3/TrkC interaction might provide a new approach to treating neuroblastoma, a form of [cancer](#) for which treatment options are currently limited.

More information: Neurotrophin-3 production promotes human neuroblastoma cell survival by inhibiting TrkC-induced apoptosis, View this article at: www.jci.org/articles/view/4101...7f26b0d679e4415a781a

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