

Key growth factor identified in T cell leukemia

1 August 2011

Blocking a growth factor receptor cripples cancer growth in a form of T cell leukemia, according to a study published online on August 1 in the *Journal of Experimental Medicine*.

Approximately half of the cases of T cell [acute lymphoblastic leukemia](#) (T-ALL) carry [genetic mutations](#) in a cellular signaling pathway called Notch, which result in aberrant activation of the cell. A study by Andrew Weng and colleagues at the British Columbia Cancer Agency now shows that activation of the Notch pathway promotes the expression of a receptor for insulin growth factor (IGF-1), which drives the growth and survival of the cancer cells.

Cancer cells with an activated Notch pathway but lacking the IGF-1 receptor had reduced growth in mice, and blocking the receptor with drugs improved their survival. Simply reducing the amount of receptor resulted in the loss of cancer stem cells—the cells responsible for originating and perpetuating the disease. Human T-ALL cells were also found to express IGF-1 receptor, suggesting that blocking the receptor in combination with standard treatment may reduce the risk of disease relapse.

More information: Medyouf, H., et al. 2011. *J. Exp. Med.* [doi:10.1084/jem.20110121](https://doi.org/10.1084/jem.20110121)

Provided by Rockefeller University Press

APA citation: Key growth factor identified in T cell leukemia (2011, August 1) retrieved 16 August 2022 from <https://medicalxpress.com/news/2011-08-key-growth-factor-cell-leukemia.html>

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