

Researchers develop compound to block signaling of cancer-causing protein

July 17 2011

Researchers at New York University's Department of Chemistry and NYU Langone Medical Center have developed a compound that blocks signaling from a protein implicated in many types of cancer. The compound is described in the latest issue of the journal *Nature Chemical Biology*.

The researchers examined signaling by receptor tyrosine kinase (RTK). Abnormal RTK signaling is a major underlying cause of various developmental disorders and diseases, including many forms of cancer. RTK signaling pathway employs interactions between proteins Sos and Ras, and accounts for a broad range of [molecular changes](#) that underlie various cancers and other diseases. Disrupting the Sos-Ras interaction, then, is crucial to stemming the production of [cancer cells](#).

However, interactions between large [protein molecules](#) such as Ras and Sos have been difficult to modulate with artificial means. Through a series of experimental and computational analyses, the scientists hypothesized that by mimicking a key portion of Sos, they might disrupt its interactions with Ras. Specifically, they observed that Sos activates Ras through a helix—a critical portion of Sos that makes contact with Ras. Creation of this Sos mimetic required a method for locking correct helical shapes in synthetic strings of amino acids – a method previously developed at NYU School of Medicine.

Provided by New York University

Citation: Researchers develop compound to block signaling of cancer-causing protein (2011, July 17) retrieved 4 May 2024 from <https://medicalxpress.com/news/2011-07-compound-block-cancer-causing-protein.html>

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