

A single therapy slows multiple cancers

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Targeting a single protein can help fight both breast cancers and leukemias, according to two reports published online on January 23 in the *Journal of Experimental Medicine*.

The single protein is HSP90, which acts as a [chaperone](#) to protect other proteins in the cell.

A team led by Ute Moll at the University of Göttingen in Germany found that blocking HSP90 activity rendered normally protected proteins vulnerable to attack and destruction. One of these proteins-called migration inhibitory factor-drives the growth of breast tumors. HSP90 inhibitors slowed the growth of MIF-expressing breast tumors in mice but had little effect on tumors lacking MIF.

HSP90 inhibitors also look promising for certain forms of leukemia, according to a study by David Weinstock and coworkers at the Dana-Farber Cancer Institute. They showed that HSP90 inhibitors slowed the growth of leukemias driven by hyperactive versions of the enzyme JAK2, many of which become resistant to JAK2-blocking drugs. The HSP90 inhibitors delayed the growth of resistant leukemia cells in mice.

Together these studies suggest that [HSP90](#) may represent a therapeutic target in many cancers.

More information: Schulz, R., et al. 2012. J. Exp. Med. [doi:10.1084/jem.20111117](https://doi.org/10.1084/jem.20111117)
Weigert, O., et al. 2012. J. Exp. Med. [doi:10.1084/jem.20111694](https://doi.org/10.1084/jem.20111694)

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