

# Researchers turn cancer friend into cancer foe

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Burnham Institute for Medical Research today announced that scientists have created a peptide that binds to Bcl-2, a protein that protects cancer cells from programmed cell death, and converts it into a cancer cell killer. The research, which was published as the featured article in the October 7 edition of *Cancer Cell*, may lead to new cancer treatments.

The Bcl-2 protein has long been implicated in protecting cancer cells from apoptosis (programmed cell death), the process that usually keeps cancer cells in check. This peptide (called NuBCP-9) and its enantiomer (mirror-image molecule) work on Bcl-2 like a molecular switch, converting it into a pro-apoptotic protein, and inducing cell death in cancer cells.

"Our results provide insight into Bcl-2 conversion and identify a new direction for Bcl-2-based drug leads and cancer drug development," said Xiao-kun Zhang, Ph.D., who co-authored the paper with Arnold Satterthwait, Ph.D. and others.

The NuBCP-9 peptide was created from Nur77, a potent pro-apoptotic protein. Nur77 often moves from the nucleus to mitochondria, in response to different death signals, where it binds to Bcl-2, changing its shape and function.

Source: Burnham Institute

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