

Leukemia, lymphoma squarely in sights of new class of drugs

December 6 2019, by Will Sansom



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UT Health San Antonio researchers, working with collaborators at the University of Florida, have discovered a safe and potent next generation of drugs to fight multiple types of leukemia and lymphoma in adults and children. The journal *Nature Medicine* reported the findings Dec. 2.

"This is a new class of drugs called PROTACs that target an essential survival protein in [cancer cells](#) called BCL-XL," said research co-author Robert Hromas, M.D., FACP, professor of medicine and dean of the university's Joe R. and Teresa Lozano Long School of Medicine. "The previous drugs that have targeted BCL-XL decrease platelets dangerously, with a high risk of bleeding. Our [drug](#) markedly reduces that risk, and thus would be potentially far more useful in [cancer patients](#)."

The PROTAC reported here would treat T-cell malignancies such as T-cell acute leukemia and T-cell lymphoma, Dr. Hromas, a noted hematologist and oncologist, said.

T cells are produced by a gland in the upper chest called the thymus. These cells are very important participants in the body's immune response. When they turn cancerous, they rely on BCL-XL for survival.

Dr. Hromas is joined on the paper by several co-authors from the Greehey Children's Cancer Research Institute at UT Health San Antonio.

"PROTAC drugs degrade the BCL-XL protein rather than merely inhibiting it," said Peter Houghton, Ph.D., professor of molecular medicine and director of the Greehey Institute. "Potentially this class of drug can be developed against certain childhood cancers that have been

untreatable."

More information: Sajid Khan et al, A selective BCL-XL PROTAC degrader achieves safe and potent antitumor activity, *Nature Medicine* (2019). [DOI: 10.1038/s41591-019-0668-z](https://doi.org/10.1038/s41591-019-0668-z)

Provided by University of Texas Health Science Center at San Antonio

Citation: Leukemia, lymphoma squarely in sights of new class of drugs (2019, December 6)
retrieved 27 April 2024 from
<https://medicalxpress.com/news/2019-12-leukemia-lymphoma-squarely-sights-class.html>

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