

Researchers induce cell death in leukemia

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Researchers from the Virginia Commonwealth University Massey Cancer Center today presented preclinical research at the American Association of Cancer Research's annual meeting suggesting the potential of a new combination treatment for chronic lymphocytic leukemia (CLL).

In this study, led by Steven Grant, M.D., Massey's associate director of translational research, interactions between bortezomib and romidepsin (Gloucester Pharmaceuticals) and bortezomib with belinostat (aka PXD101 from CuraGen Corporation and TopoTarget A/S), were examined in human CLL cells isolated from five patients. Bortezomib dramatically potentiated the lethality of both agents in cells from four of five patients, while exerting additive effects in cells from one patient. Notably, pronounced lethality was observed following treatment of cells with very low concentrations of the agents.

Parallel studies conducted on two established CLL cell lines provided additional preclinical evidence that bortezomib interacts synergistically with both agents to induce cell death in human CLL cells. Romidepsin and belinostat are histone deacetylase (HDAC) inhibitors.

"To the best of our knowledge, this is the first report describing synergistic interactions between HDAC inhibitors and Bortezomib combinations in the setting of CLL," said Grant. "The findings of our study -- as well as the emerging body of preclinical and early clinical data suggesting interactions between HDAC inhibitors and bortezomib in other tumor cell types, particularly hematologic malignancies -- is

certainly of interest and warrants further investigation as a potential therapeutic strategy in CLL."

Source: Virginia Commonwealth University

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