MedicalXpress

Boosting sarcoma cell death

October 5 2017, by Leigh Macmillan

Ewing sarcomas – rare, aggressive childhood cancers – are derived from mesenchymal cells in bone and soft tissues, and children with metastatic disease have poor survival.

In a search for new therapeutic options for Ewing sarcoma, Dai Chung, M.D., and colleagues tested a compound previously identified at Vanderbilt, ML327, that induces the expression of the cell adhesion protein E-cadherin. E-cadherin, a hallmark of epithelial cells, is often lost as cancer cells become invasive. Its re-expression in epithelial cancers blocks cell invasiveness.

Now, the investigators have demonstrated in Ewing sarcoma cells that ML327 increases E-cadherin and alters the expression of other proteins, consistent with a mesenchymal-to-epithelial transition in the cells. ML327 also increased cell death, and had additive effects with a cell death-inducing ligand called TRAIL that has been tested for Ewing sarcoma.

The findings, reported in the Sept. 16 issue of *Biochemical and Biophysical Research Communications*, support further study of ML327, both alone and in combination with TRAIL-based strategies, in the treatment of sarcomas.

More information: Eric J. Rellinger et al. ML327 induces apoptosis and sensitizes Ewing sarcoma cells to TNF-related apoptosis-inducing ligand, *Biochemical and Biophysical Research Communications* (2017). DOI: 10.1016/j.bbrc.2017.07.050

Provided by Vanderbilt University