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Stem Cell Protein Stops Cancer in its Tracks

(Ivanhoe Newswire) -- A protein found in human embryonic stem cells is showing promise in fending off the spread of deadly cancers.

Researchers say the protein, which they've dubbed "Lefty," inhibits the production of another protein known as Nodal, found in embryonic stem cells and cancer cells alike. Under normal circumstances, Nodal plays a key role in helping embryonic stem cells turn into the different cells needed in the human body, such as tissue cells, skin cells, etc.

In this study, cells found in melanoma (skin cancer) and breast cancer were found to over-produce Nodal, thus leading to the spread of the cancers. But when the researchers exposed the cells to Lefty, the over-production of Nodal came to a halt. Tumors began to decrease, and an increase was seen in the programmed suicide of the cancer cells.

"The remarkable similarity of the responses of the two tumor types is likely attributable to the commonality of plasticity . . . that indiscriminately unifies highly aggressive cancer cells, regardless of their tissue of origin," study author Mary J. C. Hendrix, M.D., from Northwestern University, was quoted as saying. She says she believes the tumor suppressive qualities of Lefty identified by this study could open the door to new and better treatments for melanoma, breast cancer, and possibly other types of cancer as well.

Finding better treatments for aggressive melanoma and breast cancer is vital, because both conditions carry high death rates. The median survival time for someone diagnosed with metastatic melanoma is less than 7.5 months. More than 40,000 women died from metastatic breast cancer in 2007 alone.