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The role of a novel myosin in the development of prostate cancer

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The majority of death from cancer is caused by metastasis, the spreading of cancer cells from the site of a primary tumor to other body parts followed by formation of metastatic tumors at these new sites. Despite the importance of metastasis in the clinical setting, little is known about the cellular mechanisms that are involved in this process. We recently discovered a previously unknown isoform of a class I myosin. Our data show that this isoform is selectively expressed in prostate cancer tumor tissues and in prostate cancer cell lines with high metastatic potential but not in normal prostate tissues or in prostate cancer cells with low metastatic potential. Furthermore, our data strongly suggest that this new myosin is critically involved in the acquisition of a metastatic phenotype in prostate cancer cells by enhancing the ability of cancer cells to invade surrounding tissue.

Biography

Wilma A Hofmann is an Assistant Professor in the Department of Physiology and Biophysics at the University at Buffalo. Her research interest focuses on structural components of the cell, their role in establishing and regulating cellular functions, and how this regulation translates into physiological consequences in health and disease. As a PI over the past 6 years, she has studied members of the myosin I family and their role in the development of various diseases with a particular focus on the role of cytoskeletal proteins in prostate cancer metastasis.

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