



Integrin Receptors as Potential Targets for Therapy of Cervical Cancer

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980 Oliver Road
Thunder Bay, Ontario
Canada P7B 6V4

Tel: 807-684-7200
Fax: 807-684-5800
Toll Free: 1-877-696-7223

www.tbrhsc.net/nworcc

Integrin Receptors as Potential Targets for Therapy of Cervical Cancer (Ulanova, Zehbe, \$80,000)

Research into the inhibition of integrins in cervical cells as a means of potentially impeding the development of cervical cancer.

Worldwide, cervical cancer is the second most common malignancy in women. There is an observed relationship between non-specific inflammatory processes and the development of cervical carcinoma; however, underlying biological mechanisms are poorly understood.

These two scientists postulate that integrins are critically involved in development and progression of cervical cancer. The function of integrins can be deeply disturbed during inflammation caused by common microbial pathogens in the female genital tract; sending wrong signals to cervical cells and causing these cells to become malignant. This research seeks to better understand the relationship between integrin expression, inflammation and development of cervical cancer. The study will provide an experimental basis for the design of novel drugs for therapy of cervical cancer, such as topical application, creating an advantage over existing therapies.

Outline

- Numerous publications indicate that many invasive metastatic tumours over-express integrins. Integrins can provide signals preventing cell apoptosis (death) that help tumour cells to survive.
- It is the interaction of integrins with other intracellular signalling molecules, which are essential for cellular adaptation to the constantly changing microenvironment, but can lead to malignant transformation.
- Integrins associate with some biologically active molecules that in turn can promote tumorigenesis. Additionally, endothelial cell integrins directly contribute to the formation of new blood vessels essential for tumour growth and development of metastasis.
- Two peptide-based integrin inhibitors are on Phase I or II clinical trials for therapy of prostate cancer and metastatic melanoma, evidencing research application beyond cervical cancer treatment.



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