Irisin-Related Cancer Treatments

Published date: April 24, 2017

Technology description

A novel method for cancer treatment that significantly decreases proliferation, migration, and viability in malignant breast cancer cells, without affecting non-malignant cells.
Irisin is a myokine linked to exercise and lean body mass, which is thought to favorably alter metabolism systemically, potentially providing benefit for metabolic disease (including cancer). This therapeutic agent or adjuvant therapy can help decrease or alleviate the dosage of chemotherapy a patient receives.

Background

According to the National Cancer Institute, there will be an estimated 1.7 million new cancer cases in the US in 2014 with almost 600,000 cancer-related deaths. Cancers start because abnormal cells grow out of control. Scientists and researchers are focused on studying different ways to prevent cancer including changes in diet and lifestyle, finding precancerous conditions earlier, and chemoprevention. Exercise has been shown to reduce risk and improve prognosis of several types of cancers. Previous studies have reported a 30-40% reduction of breast cancer risk in women who exercise regularly which appears to function in a dose dependent fashion. Moreover, women with breast cancer have an improved survival rate if they participate in regular exercise. Irisin is a myokine linked to exercise and lean body mass, which is thought to favorably alter metabolism systemically, potentially providing benefit for metabolic disease (including cancer). While irisin has been explored in other tissue types with implications for metabolic disease, further research is needed to understand the molecular effects of irisin in breast cancer and other types of cancers.

Technology Description

Researchers at the University of New Mexico have discovered a novel method for cancer treatment using irisin¯a hormone released into the body during exercise activity. This new treatment method significantly decreases proliferation, migration, and viability in malignant breast cancer cells, without affecting non-malignant cells. This therapeutic agent or adjuvant therapy can help decrease or alleviate the dosage of chemotherapy a patient receives.

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Application area

Suppressive effect on malignant cancer cells, without affecting non-malignant cells
Possibility of an anti-inflammatory effect
Potential for a reduction in common antineoplastic doses, thereby improving patient tolerance and prognosis
Validation of link between exercise and reduced incidence of cancer
Applications in cancer treatment and prevention

Institution

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