Novel Insight into Inhibiting IGF1 Signaling

Tech ID: 23512 / UC Case 2008-567-0

ABSTRACT

A novel method and composition useful for inhibiting IFG1 based on IGF1 mediated signaling.

FULL DESCRIPTION

IGF1 has been implicated in several aspects of cancer biology. Levels of IGF1 expression are increased in cancers such as breast, lung, and prostate. IGF1 inhibits apoptosis and confers resistance to chemo- and radiation- therapies. Furthermore, high levels of integrin αvβ3, like IGF1, correlate with cancer growth and progression. Traditionally, it has been thought that IGF1 binds to the IGF receptor type 1 ("IGF-IR") and that integrin αvβ3 binds to extracellular matrix ("EM") ligands. Based on this prior assumption, IGF1 and IGF-IR have been targets of cancer therapies.

Researchers at the University of California, Davis have discovered a new mechanism for IGF1 signaling. They have found that the interaction between IGF1 and certain integrin molecules is involved in IGF1-mediated signaling. More specifically, integrin αvβ3 has been shown to directly interact with IGF1 and it is this interaction which relates to enhanced cell proliferation and αvβ3's ability to interact with the EM.

APPLICATIONS

- Inhibiting IGF1 signaling in a cell
- Identifying inhibitors of IGF1-integrin binding

FEATURES/BENEFITS

- Inhibits IGF1 signaling
- Inhibit IGF1 signaling
- Prevents IGF1-integrin associations
- Prevents cell proliferation

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,685,403	04/01/2014	2008-567

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Role Of Integrins In Insulin Signaling
- Suppression of sPLA2-Integrin Binding for Treating an Inflammatory Condition or Suppressing Cell Proliferation
- Development of Dominant Negative CD40L Antagonists DACD40L
- The Isolated Heparin-binding Domain (HBD) of VEGF165 and the Isolated D1 Domain of VEGFR2 (KDR)
- Novel Fibroblast Growth Factor 1-Derived Peptides for Therapy and Drug Discovery
- Modulating MD-2-Integrin Interaction for Sepsis Treatment
- Integrin Binding to P-Selectin as a Treatment for Cancer and Inflammation

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OTHER INFORMATION

KEYWORDS

IGF1, Therapy

CATEGORIZED AS

- **Biotechnology**
  - Genomics
  - Proteomics
- **Medical**
  - Disease: Autoimmune and Inflammation
  - Disease: Blood and Lymphatic System
  - Disease: Cancer

RELATED CASES

2008-567-0

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