

Stimulus-Triggered Metalloenzyme Inhibitors

Tech ID: 19944 / UC Case 2010-123-0

TECHNOLOGY DESCRIPTION

Matrix metalloproteinases (MMPs) are a class of zinc-dependent hydrolytic enzymes that function in the degradation and restructuring of extracellular proteins. Overexpression of MMPs has been associated with a variety of diseases, including cancer, arthritis, and cardiovascular disease. Commercialization of MMP inhibitors (MMPi) has not been successful, as the inhibition of MMPs systemically has resulted in adverse events such as musculoskeletal syndrome. The researchers have approached this problem by developing prodrug MMPi or "proinhibitors" that are triggered in a localized fashion, minimizing the systemic effects of the drugs. A protected zinc-binding group was used to develop the proinhibitor. The researchers demonstrated that it is possible to protect the MMPi, activate it through an enzymatic reaction, and inhibit MMPs in a controlled manner.

The ability to create MMP proinhibitors may provide a new approach to MMPi therapy of disease.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,889,638	11/18/2014	2010-123

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- [Novel Matrix Metalloproteinase Inhibitors](#)
- [New Antibacterial Leads](#)

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INVENTORS

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OTHER INFORMATION

CATEGORIZED AS

- **Medical**
 - Disease: Autoimmune and Inflammation
 - Disease: Cancer
 - Disease: Cardiovascular and Circulatory System

RELATED CASES

2010-123-0

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