Use of Catestatin to Mobilize Fat from Adipose Tissue by Regulating Adrenergic and Leptin Signaling

Tech ID: 22551 / UC Case 2012-314-0

BACKGROUND

Chromogranin A (CHGA/Chga), a 48-kDa acidic secretory proprotein, gives rise to several peptides of biological importance, which include the dysglycemic hormone pancreastatin, the vasodilator vasostatin, and the antihypertensive peptide catestatin that inhibits catecholamine release. Initially identified as a physiological brake in catecholamine secretion, catestatin has been established as a pleiotropic hormone having effects on promoting angiogenesis and lowering blood pressure.

TECHNOLOGY DESCRIPTION

Scientists at the University of California, San Diego have discovered that catestatin reduces adipose tissue weight by stimulating breakdown of fat (lipolysis) and disposing of the released fatty acids by oxidation in both liver and adipose tissue. This technology supports an essential role of the endogenous bioactive peptide catestatin in restoring homeostasis during metabolic disorders by controlling catecholamine release and lipid disposal via modulation of adrenergic and leptin signaling. Therefore, CST may be developed as an anti-obesity agent.

RELATED MATERIALS

- Bandyopadhyay GK, Vu CU, Gentile S, Lee H, Biswas N, Chi NW, O'Connor DT, Mahata SK. Catestatin (Chromogranin A352-372): Novel effects on mobilization of fat from adipose tissue through regulation of adrenergic and leptin signaling. J Biol Chem. 2012 Apr 25. [Epub ahead of print] - 04/25/2012

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,572,862	02/21/2017	2012-314

CONTACT

University of California, San Diego
Office of Innovation and Commercialization
innovation@ucsd.edu
tel: 858.534.5815.

INVENTORS

- Mahata, Sushil K.

OTHER INFORMATION

KEYWORDS

catestatin, triglyceride, glycerol, fatty acid

CATEGORIZED AS

- **Medical**
  - Disease: Digestive System
  - Disease: Metabolic/Endocrinology

RELATED CASES

2012-314-0