229 GFANT: Novel peptides that enhance or suppress the activity of a cytokine associated with obesity and nausea

Asset Overview

Product Type	Peptide
Indication	Metabolic diseases including obesity
Current Stage	Preclinical
Target(MoA)	Hormone receptor
Brief Description	Non-naturally occurring protein sequences that enhance or suppress the activity of hormone associated with obesity and nausea
Organization	University of Pennsylvania

Differentiation

□ **Long-term weight management is a current major problem**

- Nausea/Emesis from chemotherapy and morning sickness is difficult to manage and can be extremely debilitating and compromise individual quality of life
- Nausea was the most frequent side effect in weight loss
- Cachexia is a weight-loss process and induced changes in metabolism, signaling pathways, and body composition may alter the pharmacokinetics of various drugs

□ **Growth differentiation factor-15 (GDF15)**

- GDF15 is a broadly expressed cytokine correlated with progression of many diseases
- An increased level of GDF15 is also seen after a cancer therapy that occurs concomitant with nausea and/or emesis
- The receptor, GFRAL, is responsible for mediating the anorectic actions of GDF15 was identified, making it a promising therapeutic target for treatment of disorders such as obesity, anorexia and nausea associated with chemotherapy and pregnancy

□ **Targeting the hormone receptor**

- By targeting the hormone receptor (GFRAL), agonists such as GFANT-01 may be useful to treat obesity and antagonists such as GFANT-05 (a.k.a. GRASP) may be useful to treat cachexia as well as nausea associated with chemotherapy or morning sickness
- Can be designed to target a specific site only – avoiding brain penetration
- Potential to increase quality of life for people suffering from obesity, cachexia, and nausea

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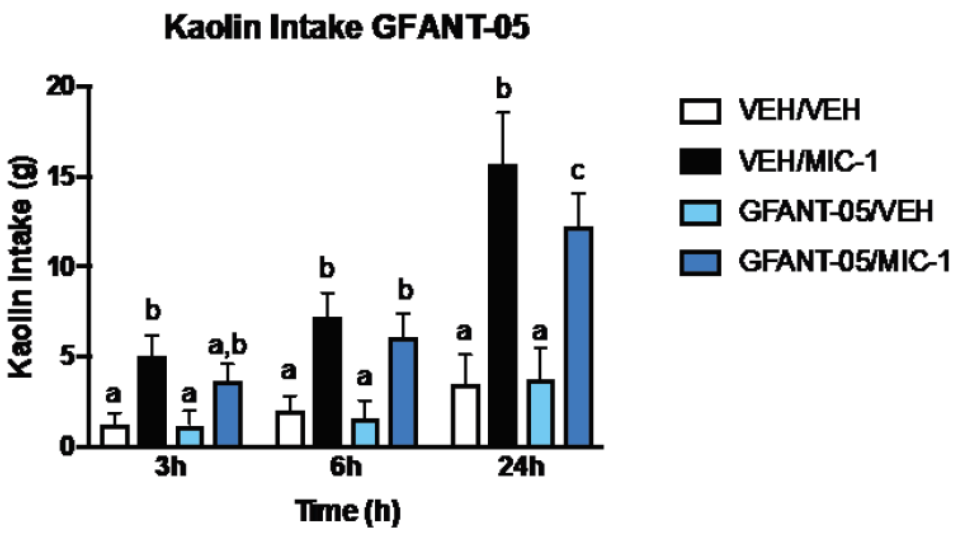
Key Data

GFANT-05 attenuates pica induced by Mic-1

A



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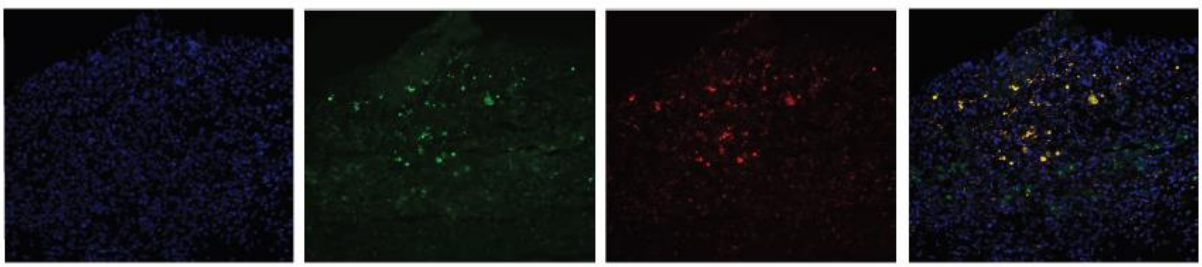

(A) GFANT-05 (a.k.a. GRASP) (300pmol) attenuates pica induced by Mic-1. Mic-1 is a stress response cytokine and a distant member of the transforming growth factor beta superfamily. GRANT-05 treated model showed attenuated kaolin intake. (B) GRASP-555 shows co-localization with GFRAL-expressing neurons in the area postrema and nucleus tractus solitarius of the brainstem.

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Intellectual Property

Patent No.	
Application Date	
Status	
Country	

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