Active VGF Nerve Growth Factor Inducible (VGF)

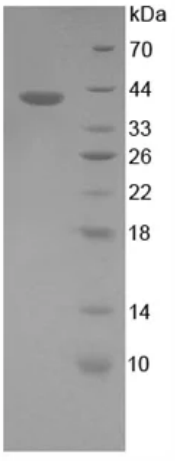
Catalog#:PEH12616

概述（Summary）

别称（Alternative Names）	NERP1; NERP2; Neuro-Endocrine Specific Protein VGF; Neuroendocrine Regulatory Peptide
纯度（Purity）	Greater than 97% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Asp330-Pro449】
Accession #	O15240
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	43.3 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Secreted polyprotein that is packaged and proteolytically processed by prohormone convertases PCSK1 and PCSK2 in a cell-type-specific manner. VGF and peptides derived from its processing play many roles in neurogenesis and neuroplasticity associated with learning, memory, depression and chronic pain.; Plays a role in the control of body fluid homeostasis by regulating vasopressin release. Suppresses presynaptic glutamatergic neurons connected to vasopressin neurons.; Plays a role in the control of body fluid homeostasis by regulating vasopressin release. Activates GABAergic interneurons which are inhibitory

neurons of the nervous system and thereby suppresses presynaptic glutamatergic neurons. Stimulates also feeding behavior in an orexin-dependent manner in the hypothalamus. Functions as a positive regulator for the activation of orexin neurons resulting in elevated gastric acid secretion and gastric emptying.; Secreted multifunctional neuropeptide that binds to different cell receptors and thereby plays multiple physiological roles including modulation of energy expenditure, pain, response to stress, gastric regulation, glucose homeostasis as well as lipolysis. Activates the G-protein-coupled receptor C3AR1 via a folding-upon-binding mechanism leading to enhanced lipolysis in adipocytes. Interacts with C1QBP receptor in macrophages and microglia causing increased levels of intracellular calcium and hypersensitivity.; Plays a role in the regulation of memory formation and depression-related behaviors potentially by influencing synaptic plasticity and neurogenesis. Induces acute and transient activation of the NTRK2/TRKB receptor and subsequent CREB phosphorylation. Induces also insulin secretion in insulinoma cells by increasing intracellular calcium mobilization.; Has bactericidal activity against M. luteus, and antifungal activity against P. Pastoris.

电泳图（SDS-PAGE image）



Greater than 97% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

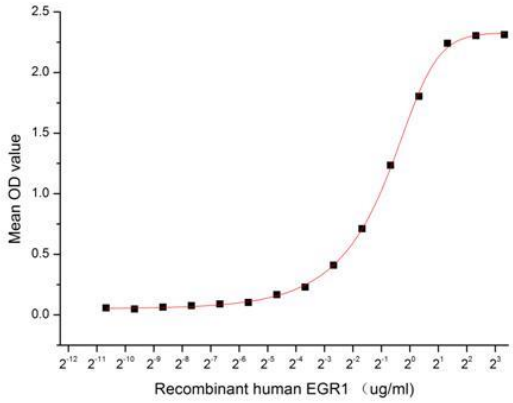


Figure 1. The binding activity of VGF with EGR1

Neurosecretory protein VGF is specifically expressed in a subpopulation of neuroendocrine cells, and is upregulated by nerve growth factor. Human VGF precursor is 615 amino acids (aa) in length. It contains an 22 aa signal sequence plus a 593 aa mature region. The structural organization of this gene is similar to that of the rat gene, and both the translated and the untranslated regions show a high degree of sequence similarity to the rat gene. The encoded secretory protein also shares similarities with the secretogranin/chromogranin family, however, its exact function is not known. Besides, Early Growth Response Protein 1 (EGR1) has been identified as an interactor of VGF, thus a binding ELISA assay was conducted to detect the interaction of recombinant human VGF and recombinant human EGR1. Briefly, EGR1 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100µl were then transferred to VGF-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-EGR1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50µL stop solution to the wells and read at 450/630nm immediately. The binding activity of VGF and EGR1 was shown in Figure 1, the EC50 for this effect is 0.60912 ug/mL.

注意事项（Note）

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