Data Sheet (Cat.No.TMPH-01768)

TargetMol

VGF Protein, Human, Recombinant (GST & His & Myc)

General Information

Synonyms:	VGF;Neurosecretory protein VGF
Protein Construction:	23-206 aa
Species:	Human
Expression Host:	E. coli
Accession:	O15240
Molecular Weight:	54.6 kDa (predicted)
AA Sequence:	APPGRPEAQPPPLSSEHKEPVAGDAVPGPKDGSAPEVRGARNSEPQDEGELFQGVDPRALAAVLLQALDRP ASPPAPSGSQQGPEEEAAEALLTETVRSQTHSLPAPESPEPAAPPRPQTPENGPEASDPSEELEALASLLQEL RDFSPSSAKRQQETAAAETETRTHTLTRVNLESPGPERVW

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose, pH 8.0.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 μg/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

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.

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