Datasheet for ABIN7566392

GDF15 Protein (AA 189-303) (Fc Tag)

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Overview

Quantity:	50 µg
Target:	GDF15
Protein Characteristics:	AA 189-303
Origin:	Human, Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This GDF15 protein is labelled with Fc Tag.

Product Details

Purpose:	Fc (LALA-PG)-KIH (human):GDF15 (mouse) (rec.)
Cross-Reactivity:	Mouse
Characteristics:	The extracellular domain of mouse GDF15 (aa 189-303) is fused to the C-terminus of the Fc (LALA-PG) Knob region of human IgG1. Fc (LALA-PG) Knobs:GDF15 (mouse) and Fc (LALA-PG) Holes form the Fc (LALA-PG)-KIH (human):GDF15 (mouse) (rec.) using the Knobs-into-Holes technology (see reference: J.B. Ridgway, et al., Protein Eng. 9, 617 (1996)).
Purity:	>95 % (SDS-PAGE)
Endotoxin Level:	<0.01EU/µg purified protein (LAL test).
Grade:	Animal-Free
Biological Activity Comment:	Binds to its receptor GDNF family receptor alpha-like (GFRAL)(mouse) with a ED50 < 5ng /ml.

Target Details

Target:	GDF15
Alternative Name:	GDF15 (GDF15 Products)
Background:	Fc (LALA-PG)-KIH:Growth/Differentiation Factor 15, GDF-15, Macrophage Inhibitory Cytokine 1, MIC-1 Growth and differentiation factor 15 (GDF15, also known as macrophage inhibitory cytokine-1 (MIC-1)), is a member of the transforming growth factor (TGF)-beta superfamily and was initially identified in activated macrophages. GDF15 acts through a recently identified receptor called Glial-derived Neurotrophic Factor (GDNF) Receptor Alpha-Like (GFRAL) which signals through the Rearranged during Transfection (RET) tyrosine kinase receptor. GDF15 is highly expressed in placenta and brain, and it is expressed at lower levels in kidney, pancreas, prostate and colon. Similar to other TGF-beta family proteins, GDF15 is synthesized as a large precursor protein that is cleaved to release the mature protein that shares 66 % and 97 % amino acid sequence identity with the human and rat proteins, respectively. Biologically active GDF15 is a disulfide-linked homodimer of the mature protein. The effects of GDF-15 are pleiotropic and include appetite regulation, actions on metabolism, pregnancy, cell survival, immune response and inflammation. GDF-15 also plays different roles in the pathophysiology of cardiovascular disease, autoimmunity, cancer-associated anorexia/cachexia and diabetes. High levels of GDF15 cause anorectic effects and cachexia. largely if not exclusively, through the suppression of food intake via modulation of neuropeptide Y and pro-opiomelanocortin levels. Various functions have been reported for GDF15, including inhibition of TNF-alpha production from lipopolysaccharide-stimulated macrophages and the induction of cartilage formation. GDF15 promotes also neuronal survival. GFRAL and GDF15 signaling is implicated in diet-based obesity and insulin resistance. GDF15 is cardioprotective via inhibition of platelet activation, limiting atherosclerosis, promoting recovery following myocardial infarction and regulating angiogenesis. The protein Fc (LALA-PG)-KIH (human):GDF15 (mouse) (rec.) is produced by using two different vectors, one encoding for the Fc Knobs (LALA-PG) (human):GDF15 (mouse) sequence (synthesizing a protein of 45 kDa) and one encoding for the Fc Holes (LALA-PG) sequence (synthesizing a protein of 30 kDa). Both vectors transfected into HEK293 cells produce both Fc molecules (Knobs-into-Holes technology, J.B. Ridgway, et al., Protein Eng. 9, 617 (1996)) required for dimerization and for secretion of the final protein Fc (LALA-PG)-KIH (human):GDF15 (mouse) (rec.). This Fc-KIH format allows our mouse GDF15 protein to form a dimer that is the most active structure to bind and activate the GFRAL and RET receptor complex. The Fc contains the mutations LALA-PG that abolish the interaction between the Fc and FcgammaRs and therefore Fc undesirable effects. InVivoKines™ are a new generation of recombinant fusion proteins for immunotherapeutic, preclinical and translational in vivo

Target Details

	research
Molecular Weight:	~45kDa and 30 kDa (SDS-PAGE)
UniProt:	Q9Z0J7
Pathways:	SARS-CoV-2 Protein Interactome

Application Details

Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Reconstitution:	1 mg/mL after reconstitution.
Concentration:	1 mg/mL
Buffer:	Contains PBS
Handling Advice:	Avoid freeze/thaw cycles. Centrifuge lyophilized vial before opening and reconstitution. PBS containing at least 0.1 % BSA should be used for further dilutions.
Storage:	4 °C,-20 °C
Storage Comment:	Short Term Storage: +4°C Long Term Storage: -20°C Use & Stability: Stable for at least 6 months after receipt when stored at -20°C.Working aliquots are stable for up to 3 months when stored at -20°C.