Data Sheet (Cat.No.TMPY-04727)

TargetMol

GDF-15 Protein, Human, Recombinant (His)

General Information

Synonyms:	PLAB;PTGFB;NAG-1;MIC1;GDF-15;PDF;MIC-1;growth differentiation factor 15
Protein Construction:	A DNA sequence encoding the mature form of human GDF15 (NP_004855.2) (Ala197-Ile308) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	P. pastoris (Yeast)
Accession:	Q99988
Molecular Weight:	13.7 kDa (predicted); 18.2 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE.
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 50 mM HAc, pH 2. 9. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.2 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. 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

Growth-differentiation factor 15 (GDF15), also known as MIC-1, is a secreted member of the transforming growth factor (TGF)-β superfamily, as a novel antihypertrophic regulatory factor in the heart. GDF-15 / GDF15 is not expressed in the normal adult heart but is induced in response to conditions that promote hypertrophy and dilated cardiomyopathy and it is expressed highly in liver. GDF-15 / GDF15 has a role in regulating inflammatory and apoptotic pathways in injured tissues and during disease processes. GDF-15 / GDF15 is synthesized as precursor

molecules that are processed at a dibasic cleavage site to release C-terminal domains containing a characteristic motif of 7 conserved cysteines in the mature protein. GDF-15 / GDF15 overexpression arising from an expanded erythroid compartment contributes to iron overload in thalassemia syndromes by inhibiting hepcidin expression.

Reference

Ago T, et al. (2006) GDF15, a cardioprotective TGF-beta superfamily protein. Circ Res. 98 (3): 294-297.
Hsiao E, et al. (2000) Characterization of growth-differentiation factor 15, a transforming growth factor beta superfamily member induced following liver injury. Mol Cell Biol. 20 (10): 3742-51.
Zimmers T, et al. (2005) Growth differentiation factor-15/macrophage inhibitory cytokine-1 induction after kidney and lung injury. Shock. 23 (6): 543-8.