

**DESCRIPTION**

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived human GDF-15 protein Ala197-Ile308, with an N-terminal 6-His tag Accession # Q99988
<b>N-terminal Sequence Analysis</b>	His & Asn199
<b>Structure / Form</b>	Disulfide-linked homodimer
<b>Predicted Molecular Mass</b>	13 kDa (monomer)

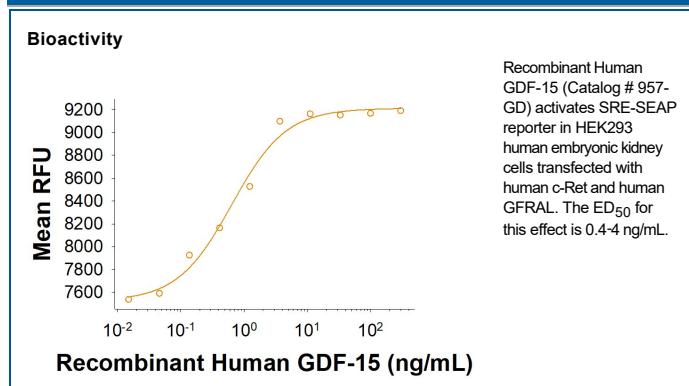
**SPECIFICATIONS**

<b>SDS-PAGE</b>	14 kDa, reducing conditions
<b>Activity</b>	Measured by its ability to activate SRE-SEAP reporter in HEK293 human embryonic kidney cells transfected with human c-Ret and human GFRAL. The ED <sub>50</sub> for this effect is 0.4-4 ng/mL.
<b>Endotoxin Level</b>	<1.0 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in Acetonitrile and TFA with BSA as a carrier protein. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 100 µg/mL in sterile 4 mM HCl containing at least 0.1% human or bovine serum albumin.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**DATA**



**BACKGROUND**

Growth Differentiation Factor 15 (GDF-15), also called Macrophage inhibitory cytokine-1 (MIC-1), placental transforming growth factor- $\beta$ , prostate-derived factor, and placental bone morphogenetic protein, is a divergent member of the transforming growth factor  $\beta$  (TGF- $\beta$ ) superfamily. GDF-15 is highly expressed in placenta and is expressed at lower levels in kidney, pancreas, prostate and colon. It is also widely expressed in brain. Similarly to other TGF- $\beta$  family proteins, GDF-15 is synthesized as a large precursor protein that is cleaved at the dibasic cleavage site (RXXR) to release the carboxy-terminal domain. The carboxy-terminal domain of GDF-15 contains the characteristic seven conserved cysteine residues necessary for the formation of the cysteine knot and the single interchain disulfide bond. Furthermore, the carboxy-terminal domain contains two additional cysteine residues that form a fourth intrachain disulfide bond. Biologically active GDF-15 is a disulfide-linked homodimer of the carboxy-terminal 112 amino acid residues. Mature human GDF-15 shares 66.1% and 68.7% amino acid sequence similarity with rat and mouse GDF-15, respectively, which are remarkably low homologies between species in TGF- $\beta$  superfamily. GDF-15 has been shown to have various functions, including inhibition of production of tumor necrosis factor  $\alpha$  (TNF- $\alpha$ ) from lipopolysaccharide-stimulated macrophages, induction of cartilage formation, early-stage endochondral bone formation, and promotion of neuronal survival.

**References:**

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