

**Synonym**

GDF15,GDF-15,MIC-1,MIC1,NAG-1,PDF,PLAB,PTGFB,NRG-1

**Source**Biotinylated Human GDF-15 Protein, His,Avitag(GD5-H81Q3) is expressed from E. coli cells. It contains AA Ala 197 - Ile 308 (Accession # [Q99988-1](#)).

Predicted N-terminus: Met

**Molecular Characterization**

This protein carries a polyhistidine tag at the N-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 15.8 kDa. The protein migrates as 16 -17 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE).**Labeling***Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.***Protein Ratio**

Passed as determined by the HABA assay / binding ELISA.

**Endotoxin**

Less than 1.0 EU per µg by the LAL method.

**Purity**

&gt;90% as determined by SDS-PAGE.

**Formulation**

Lyophilized from 0.22 µm filtered solution in 0.085% TFA, 30% ACN with trehalose as protectant.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

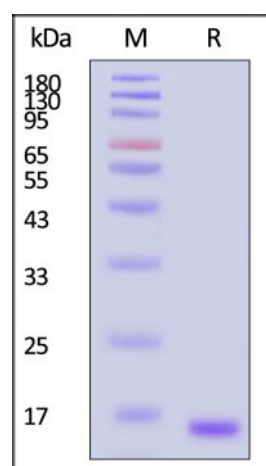
*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.***Storage**

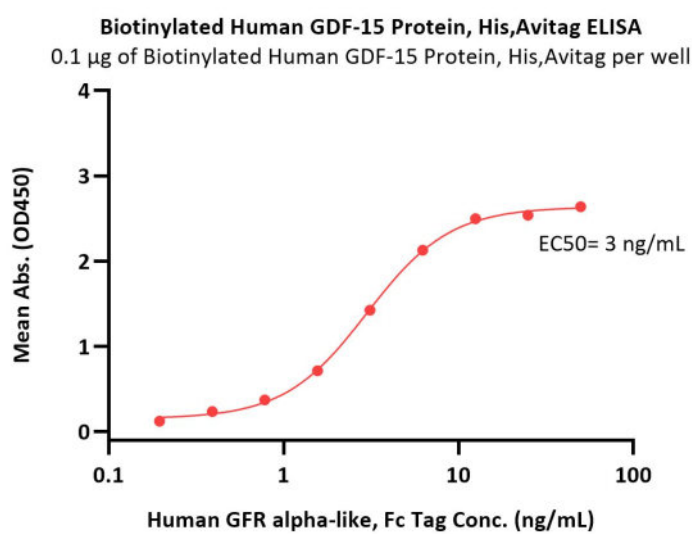
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**Biotinylated Human GDF-15 Protein, His,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).**Bioactivity-ELISA****Discounts, Gifts,  
and more!**



Immobilized Biotinylated Human GDF-15 Protein, His,Avitag (Cat. No. GD5-H81Q3) at 1 µg/mL (100 µL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate can bind Human GFR alpha-like, Fc Tag (Cat. No. GFE-H5259) with a linear range of 0.2-13 ng/mL (QC tested).

## Background

Growth Differentiation Factor 15 (GDF-15), also called Macrophage Inhibitory Cytokine 1 (MIC-1). Expression of MIC-1 mRNA in monocytoic cells is up-regulated by a variety of stimuli associated with activation, including interleukin 1 $\beta$ , tumor necrosis factor  $\alpha$  (TNF- $\alpha$ ), interleukin 2, and macrophage colony-stimulating factor but not interferon  $\gamma$ , or lipopolysaccharide (LPS). It is highly expressed in cardiomyocytes, adipocytes, macrophages, endothelial cells, and vascular smooth muscle cells in normal and pathological condition. GDF-15 increases during tissue injury and inflammatory states and is associated with cardiometabolic risk. Increased GDF-15 levels are associated with cardiovascular diseases such as hypertrophy, heart failure, atherosclerosis, endothelial dysfunction, obesity, insulin resistance, diabetes, and chronic kidney diseases in diabetes. Increased GDF-15 level is linked with the progression and prognosis of the disease condition.

## Clinical and Translational Updates

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