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Recombinant human GDF-15 protein (Qk017)



Type: Stem cells

Available for purchase: Unit Size (µg): 25, 50, 100, 500, 1000

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Product Information

Human growth differentiation factor 15 (GDF-15) protein is a member of the TGFβ family and subject of intense interest as a marker of cellular stress and for its role in metabolism, cancer and pregnancy. Human GDF-15 also is functional in mouse studies.

Qkine GDF-15 is a 25 kDa disulfide-linked dimer composed of the mature domain of human GDF-15 protein. Our recombinant GDF-15 protein is exceptionally high purity, animal origin-free and extensively validated to ensure no trace contamination of related TGF-β family proteins from the mammalian culture systems.

This protein is also available as GMP compliant Cell Therapy Grade, to enquire email support@qkine.com.

Alternative protein names

Growth differentiation factor 15, Macrophage inhibitory cytokine 1 (MIC 1), NSAID activated gene 1 protein (NAG1), GDF15, GDF 15, Qk17

Molecular weight

25 kDa (dimer)

Protein Uniprot number

High purity human GDF-15 protein (Uniprot: Q99988)

Species reactivity

- human
- species similarity:
- mouse - 67% (cross-reacts)
- rat - 66%
- bovine - 66%
- porcine - 67%

Product Information

- >98%, by SDS-PAGE quantitative densitometry
- Expressed in *E. coli*
- Animal origin-free (AOF) and carrier protein-free
- Manufactured in our Cambridge, UK laboratories
- Lyophilized from acetonitrile, TFA

Reconstitution instructions

- Resuspend in 10 mM HCl (Reconstitution solution A) at >50 µg/ml

Featured applications

- *In vivo* metabolic studies in mice (using human GDF-15)
- Biomarker for cellular stress

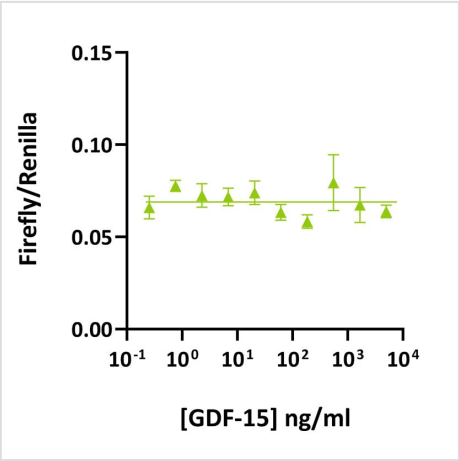
Further quality assays

- Mass spectrometry: single species with expected mass
- Recovery from stock vial: >95%
- Endotoxin: <0.05 EU/µg protein

Scientific Information

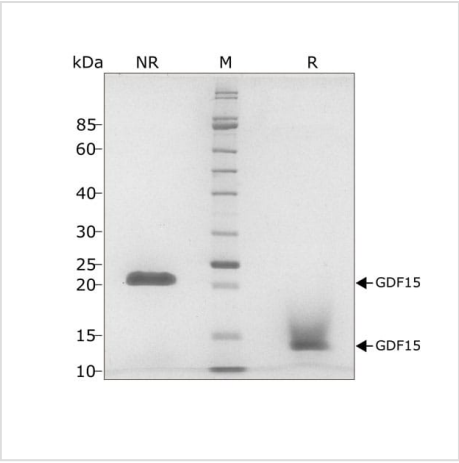
Bioactivity

GDF-15 signals through GRAL and co-receptor RET leading to RET phosphorylation and signalling through the ERK and AKT pathway (reviewed in Emmerson et al., 2018). Commercial sources of GDF-15, in particular those purified from mammalian expression systems, have been shown previously to be contaminated with trace amounts of TGF-β. These trace contaminants cause misleading experimental results due to the picomolar or even femtomolar EC50s (Olsen et al., 2017). Here we use a well-characterized SMAD2/3 activation assay to show that there is no contamination from other TGF-β family proteins. Bioactivity was determined using a luciferase reporter assay in HEK293T cells. Cells were treated (in triplicate) with a serial dilution of GDF-15 for 6 hours. Firefly luciferase activity is measured and normalized to the control Renilla luciferase activity, no contamination with TGF-β or related growth factors was found. Data from Qk017 lot #104282.



Purity

GDF-15 migrates as a single band at 24 kDa in non-reducing (NR) and 13 kDa as a single monomeric species upon reduction (R). No contaminating protein bands are visible. Purified recombinant protein (7 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptothanol, R) and non-reduced conditions (NR) and stained with Coomassie Brilliant Blue R250. Data from Qk017 lot #010.



Original product page: https://qkine.com/product/recombinant-human-gdf15-protein/

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