

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human GDF-15 in direct ELISAs.
Source	Monoclonal Mouse IgG _{2B} Clone # 1005038
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human GDF-15 Ala197-Ile308 Accession # Q99988
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

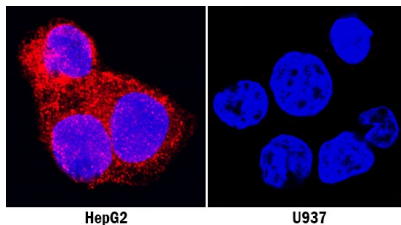
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the [Technical Information](#) section on our website.

	Recommended Concentration	Sample
Immunocytochemistry	5-25 µg/mL	See Below

DATA

Immunocytochemistry



GDF-15 in HepG2 and U937 Human Cell Lines. GDF-15 was detected in immersion fixed HepG2 human hepatocellular carcinoma cell line (positive staining) and U937 human histiocytic lymphoma cell line (negative staining) using Mouse Anti-Human GDF-15 Monoclonal Antibody (Catalog # MAB9573) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to nuclei. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Growth Differentiation Factor 15 (GDF-15), also called Macrophage inhibitory cytokine-1 (MIC-1), placental transforming growth factor- β , prostate-derived factor, and placental bone morphogenetic protein, is a divergent member of the transforming growth factor β (TGF- β) 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- β 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- β superfamily. GDF-15 has been shown to have various functions, including inhibition of production of tumor necrosis factor α (TNF- α) from lipopolysaccharide-stimulated macrophages, induction of cartilage formation, early-stage endochondral bone formation, and promotion of neuronal survival.

References:

1. Bootcov, M.R. *et al.* (1997) Proc. Natl. Acad. Sci. USA **94**:11514.
2. Böttner, M. *et al.* (1999) Gene **237**:105.
3. Fairlie, W.D. *et al.* (1998) J. Leukoc. Biol **65**:2.
4. Fairlie, W.D. *et al.* (2001) J B.C **20**:16911.
5. Bauskin, A.R. *et al.* (2000) EMBO J. **19**:2212.
6. Strelau, J. *et al.* (2000) J. Neurosci. **20**:8597.
7. Schober, A. *et al.* (2001) J. Comp. Neurol. **439**:32.