Recombinant Human SF20/MYDGF

Catalog Number: 10231-MY

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human SF20/MYDGF protein Val32-Leu173 Accession # Q969H8
N-terminal Sequence Analysis	Val32
Predicted Molecular Mass	16 kDa

SPECIFICATIONS

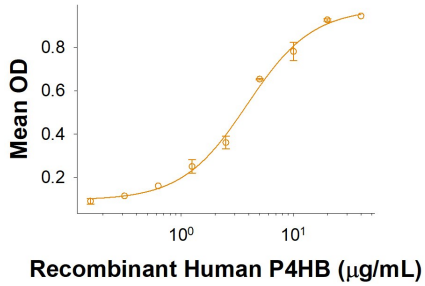
SDS-PAGE	14-15 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human SF20/MYDGF (Catalog # 10231-MY) is immobilized at 2 µg/mL (100 µL/well), Recombinant Human Protein Disulfide Isomerase/P4HB (Catalog # 4236-DI) binds with an ED_{50} of 0.8-4.8 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

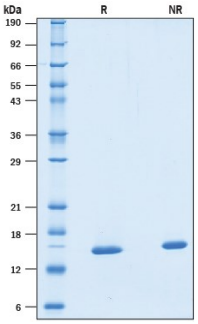
DATA

Binding Activity



When Recombinant Human SF20/MYDGF (Catalog # 10231-MY) is immobilized at 2 µg/mL, 100 µg/well, Recombinant Human Protein Disulfide Isomerase/P4HB (Catalog # 4236-DI) binds with an ED_{50} of 0.8-4.8 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Human SF20/MYDGF (Catalog # 10231-MY) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 14-15 kDa.

BACKGROUND

Myeloid-Derived Growth Factor, or MYDGF, is a Bone marrow-derived monocyte protein, and it is correlated with enhanced metabolic activity, suppression of apoptosis, and stimulation of cell proliferation (1). MYDGF is expressed predominantly in inflammatory cells, such as monocytes and macrophages (1). Up-regulation of MYDGF expression was also found during adipocyte differentiation (2). Expression of MYDGF was induced in the circulation and heart tissue after myocardial infarction. It promotes cardiac myocyte survival by stimulating endothelial cell proliferation through a MAPK1/3-, STAT3- and CCND1-mediated signaling pathway, and inhibits cardiac myocyte apoptosis in a PI3K/AKT-dependent signaling pathway (1). MYDGF was found over-expressed in approximately two-thirds of Hepatocellular Carcinoma (HCC) tissues, and its expression was significantly positively correlated with that of alpha-fetoprotein (AFP) (3). In HCC, MYDGF could regulate cell proliferation through activating Akt/mitogen-activated protein kinase pathways (3). Human MYDGF shares 92% and 85% amino acid sequence identity to mouse and rat MYDGF, respectively. Intriguingly, virtually all homologs of MYDGF have a C-terminal putative ER retention sequence BXEL (B: Arg, His, or Lys; X: variable residue; E: Glu; L: Leu), which has the potential to retain human MYDGF and its homologs in the ER, whereas truncated MYDGF without BXEL is secreted from the cell (4). However, the functions of these different forms remain unclear.

References:

1. Korf-Klingebiel, M. *et al.* (2015) Nat. Med. **10**:3778.
2. Wang, P. *et al.* (2004) Cell. Mol. Life Sci. **61**:2405
3. Sunagozaka, H. *et al.* (2011) Int. J. Cancer **129**:1576
4. Bortnov, V. *et al.* (2018) J. Biol. Chem. **293**:13166.

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