Human/Mouse/Rat SF20/MYDGF Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2562A
Catalog Number: MAB1104

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects mouse SF20/MYDGF in direct ELISAs. Detects human, mouse, and rat SF20/MYDGF in Western blots.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2562A
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived mouse SF20/MYDGF Val25-Leu166 Accession # Q9CPT4
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.

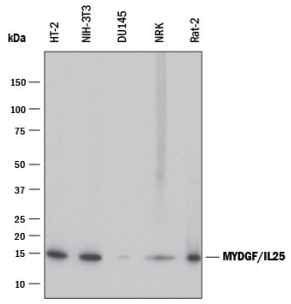
APPLICATIONS

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
Western Blot	1 µg/mL	See Below
Immunocytochemistry	3-25 µg/mL	See Below
Immunohistochemistry	0.3-25 µg/mL	See Below
Intracellular Staining by Flow Cytometry	0.25 µg/10^6 cells	See Below
Simple Western	20 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

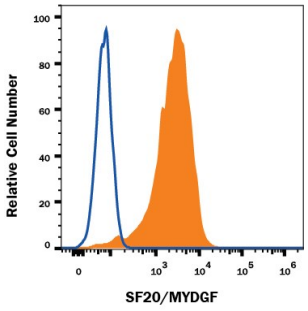
DATA

Western Blot



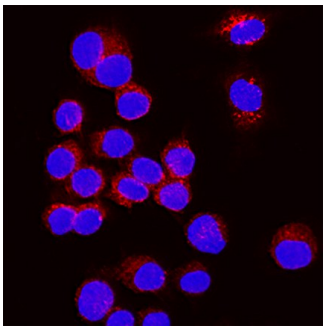
Detection of Human, Mouse, and Rat SF20/MYDGF by Western Blot. Western blot shows lysates of HT-2 mouse T cell line, NIH-3T3 mouse embryonic fibroblast cell line, DU145 human prostate carcinoma cell line, NRK rat normal kidney cell line, and Rat-2 rat embryonic fibroblast cell line. PVDF membrane was probed with 1 µg/mL of Rabbit Anti-Human/Mouse/Rat SF20/MYDGF Monoclonal Antibody (Catalog # MAB1104) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for SF20/MYDGF at approximately 18 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Intracellular Staining by Flow Cytometry



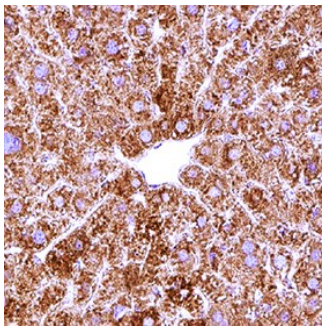
Detection of SF20/MYDGF on Tramp-C1 Mouse Cell Line by Flow Cytometry. Tramp-C1 mouse cell line was stained with Rabbit Anti-Human/Mouse/Rat SF20/MYDGF Monoclonal Antibody (Catalog # MAB1104, filled histogram) or Rabbit IgG isotype control antibody (Catalog # MAB1050, open histogram) followed by APC-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # F0111). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin. View our protocol for Staining Intracellular Molecules.

Immunocytochemistry



SF20/MYDGF in RAW 264.7 Mouse Cell Line. SF20/MYDGF was detected in immersion fixed RAW 264.7 mouse monocyte/macrophage cell line using Rabbit Anti-Mouse SF20/MYDGF Monoclonal Antibody (Catalog # MAB1104) at 3 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rabbit IgG Secondary Antibody (red; Catalog # NL004) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunohistochemistry



SF20/MYDGF in Human Liver. SF20/MYDGF was detected in immersion fixed paraffin-embedded sections of human liver using Rabbit Anti-Human/Mouse/Rat SF20/MYDGF Monoclonal Antibody (Catalog # MAB1104) at 0.3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Rabbit IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC003). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in hepatocytes. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

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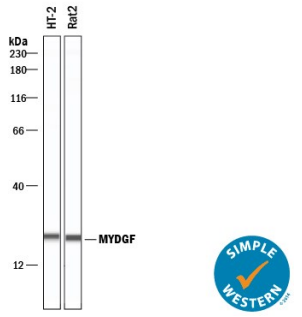
Simple Western



Detection of Mouse and Rat SF20/MYDGF by Simple Western™. Simple Western lane view shows lysates of HT-2 mouse T cell line and Rat-2 rat embryonic fibroblast cell line, loaded at 0.2 mg/mL. A specific band was detected for SF20/MYDGF at approximately 22 kDa (as indicated) using 20 µg/mL of Rabbit Anti-Human/Mouse/Rat SF20/MYDGF Monoclonal Antibody (Catalog # MAB1104) . This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

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.** • 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

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). Mouse MYDGF shares 92% amino acid sequence identity with both human and rat MYDGF. 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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