SANTA CRUZ BIOTECHNOLOGY, INC.

HM74 (D-8): sc-377292

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

HM74, also known as PUMAG or Puma-g, is a member of the G protein-coupled receptor (GPCR) superfamily. In humans, HM74 is encoded by two different genes (GPR109A and GPR109B) that produce proteins, namely HM74A and HM74 (or HM74B), which are 96% homologous. In mice and rats, only one gene encodes the HM74 protein (Gpr109a). HM74 is a G_i protein-coupled receptor that mediates the metabolic effects of nicotinic acid. Localizing to the cell membrane, HM74 is highly expressed in adipocytes, immune cells and spleen. Like all members of the GPCR superfamily, HM74 contains seven transmembrane domains. HM74 lacks the N-linked glycosylation sites near the N-terminus that are present in other GPCR family members. Furthermore, HM74 shows a more diverged amino acid sequence homology from most family members, implying different ligand specificity.

REFERENCES

1. Nomura, H., et al. 1993. Molecular cloning of cDNAs encoding a LD78 receptor and putative leukocyte chemotactic peptide receptors. Int. Immunol. 5: 1239-1249.
2. Soga, T., et al. 2003. Molecular identification of nicotinic acid receptor. Biochem. Biophys. Res. Commun. 303: 364-369.
3. Tunaru, S., et al. 2003. PUMA-G and HM74 are receptors for nicotinic acid and mediate its anti-lipolytic effect. Nat. Med. 9: 352-355.
4. Wise, A., et al. 2003. Molecular identification of high and low affinity receptors for nicotinic acid. J. Biol. Chem. 278: 9869-9874.
5. Zellner, C., et al. 2005. Variations in human HM74 (GPR109B) and HM74A (GPR109A) niacin receptors. Hum. Mutat. 25: 18-21.

CHROMOSOMAL LOCATION

Genetic locus: HCAR2/HCAR3 (human) mapping to 12q24.31; Hcar2 (mouse) mapping to 5 F.

SOURCE

HM74 (D-8) is a mouse monoclonal antibody raised against amino acids 300-363 mapping within a C-terminal cytoplasmic domain of HM74A of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HM74 (D-8) is available conjugated to agarose (sc-377292 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377292 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377292 PE), fluorescein (sc-377292 FITC), Alexa Fluor® 488 (sc-377292 AF488), Alexa Fluor® 546 (sc-377292 AF546), Alexa Fluor® 594 (sc-377292 AF594) or Alexa Fluor® 647 (sc-377292 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377292 AF680) or Alexa Fluor® 790 (sc-377292 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

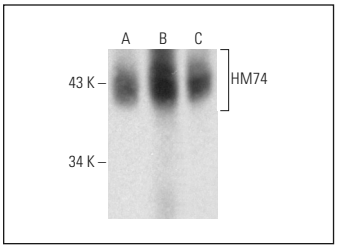
HM74 (D-8) is recommended for detection of HM74A and HM74B of human origin, and HM74 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HM74 siRNA (m): sc-60793, HM74 shRNA Plasmid (m): sc-60793-SH and HM74 shRNA (m) Lentiviral Particles: sc-60793-V.

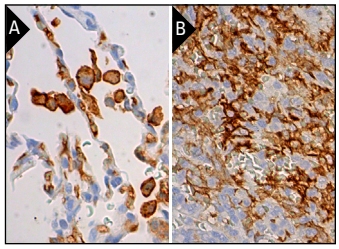
Molecular Weight of HM74: 50 kDa.

Positive Controls: human adipose tissue extract: sc-363750, human skin extract: sc-363777 or human spleen extract: sc-363779.

DATA



HM74 (D-8): sc-377292. Western blot analysis of HM74 expression in human adipose tissue (**A**), human spleen (**B**) and human skin (**C**) tissue extracts.



HM74 (D-8): sc-377292. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing membrane and cytoplasmic staining of macrophages (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing membrane and cytoplasmic staining of cells in red pulp (**B**).

SELECT PRODUCT CITATIONS

1. Bishehsari, F., et al. 2020. Abnormal eating patterns cause circadian disruption and promote alcohol-associated colon carcinogenesis. Cell. Mol. Gastroenterol. Hepatol. 9: 219-237.
2. Wei, H., et al. 2023. Butyrate ameliorates chronic alcoholic central nervous damage by suppressing microglia-mediated neuroinflammation and modulating the microbiome-gut-brain axis. Biomed. Pharmacother. 160: 114308.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.