

MR1 (B-3): sc-377312

BACKGROUND

MR1 (major histocompatibility complex, class I-related), also known as HLALS, is a 341 amino acid single-pass membrane protein that localizes to the endoplasmic reticulum, as well as to the extracellular side of the cell membrane, and contains one Ig-like C1-type domain. Expressed ubiquitously, MR1 exists as a heterodimer with β -2-Microglobulin and plays an important role in antigen presentation, specifically in the development and expansion of mucosal-associated invariant T cells (MAITs). MAITs are located in the gut and are involved in monitoring flora levels, as well as in conveying distress signals to other areas of the body, indicating a role for MR1 in proper digestion and immune system function. MR1 exists as four alternatively spliced isoforms and is encoded by a gene which maps to human chromosome 1.

REFERENCES

1. Simister, N.E. and Mostov, K.E. 1989. An Fc receptor structurally related to MHC class I antigens. *Nature* 337: 184-187.
2. Hashimoto, K., et al. 1995. A gene outside the human MHC related to classical HLA class I genes. *Science* 269: 693-695.
3. Yamaguchi, H., et al. 1998. Expanded genomic organization of conserved mammalian MHC class I-related genes, human MR1 and its murine ortholog. *Biochem. Biophys. Res. Commun.* 250: 558-564.
4. Riegert, P., et al. 1998. Genomics, isoforms, expression, and phylogeny of the MHC class I-related MR1 gene. *J. Immunol.* 161: 4066-4077.
5. Parra-Cuadrado, J.F., et al. 2000. A study on the polymorphism of human MHC class I-related MR1 gene and identification of an MR1-like pseudo-gene. *Tissue Antigens* 56: 170-172.
6. Miley, M.J., et al. 2003. Biochemical features of the MHC-related protein 1 consistent with an immunological function. *J. Immunol.* 170: 6090-6098.

CHROMOSOMAL LOCATION

Genetic locus: MR1 (human) mapping to 1q25.3.

SOURCE

MR1 (B-3) is a mouse monoclonal antibody raised against amino acids 136-194 mapping within an internal region of MR1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MR1 (B-3) is available conjugated to agarose (sc-377312 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377312 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377312 PE), fluorescein (sc-377312 FITC), Alexa Fluor[®] 488 (sc-377312 AF488), Alexa Fluor[®] 546 (sc-377312 AF546), Alexa Fluor[®] 594 (sc-377312 AF594) or Alexa Fluor[®] 647 (sc-377312 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377312 AF680) or Alexa Fluor[®] 790 (sc-377312 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MR1 (B-3) is recommended for detection of MR1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (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 MR1 siRNA (h): sc-88089, MR1 shRNA Plasmid (h): sc-88089-SH and MR1 shRNA (h) Lentiviral Particles: sc-88089-V.

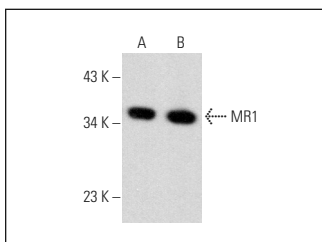
Molecular Weight of MR1: 39 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, MCF7 whole cell lysate: sc-2206 or human small intestine extract: sc-364225.

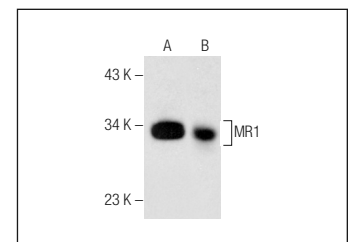
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



MR1 (B-3): sc-377312. Western blot analysis of MR1 expression in MCF7 (A) and THP-1 (B) whole cell lysates.



MR1 (B-3): sc-377312. Western blot analysis of MR1 expression in HL-60 whole cell lysate (A) and human small intestine tissue extract (B).

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.