

# MS4A7 (SW-44): sc-134394

## BACKGROUND

MS4A (membrane-spanning 4-domain family, subfamily A) is a large family of proteins that includes at least 26 members in mouse and humans. Flanked by amino- and carboxyl- cytoplasmic regions, MS4A family members contain four highly conserved transmembrane domains. CD20, the most well-known MS4A family member, is a B cell-specific molecule that functions as a calcium-permeable cation channel and is known to accelerate the G<sub>0</sub> to G<sub>1</sub> progression induced by IGF-1. Several other MS4A family members are likely to be components of oligomeric cell surface complexes involved in signal transduction in diverse cell lineages. MS4A7 (Membrane-spanning 4-domains subfamily A member 7), also known as CFFM4 (CD20/FC-epsilon-RI-beta family member 4), 4SPAN2 (four-span transmembrane protein 2) and CD20L4 (CD20 antigen-like 4), is a 240 amino acid multi-pass membrane protein that may be involved in signal transduction due to the presence of multiple phosphorylation sites on its C-terminus.

## REFERENCES

1. Ishibashi, K., Suzuki, M., Sasaki, S. and Imai, M. 2001. Identification of a new multigene four-transmembrane family (MS4A) related to CD20, HTm4 and  $\beta$  subunit of the high-affinity IgE receptor. *Gene* 264: 87-93.
2. Liang, Y. and Tedder, T.F. 2001. Identification of a CD20-, Fc  $\epsilon$  RI $\beta$ -, and HTm4-related gene family: sixteen new MS4A family members expressed in human and mouse. *Genomics* 72: 119-127.
3. Liang, Y., Buckley, T.R., Tu, L., Langdon, S.D. and Tedder, T.F. 2001. Structural organization of the human MS4A gene cluster on chromosome 11q12. *Immunogenetics* 53: 357-368.
4. Gingras, M.C., Lapillonne, H. and Margolin, J.F. 2001. CFFM4: a new member of the CD20/Fc  $\epsilon$  RI $\beta$  family. *Immunogenetics* 53: 468-476.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606502: World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Ota, T., Suzuki, Y., Nishikawa, T., Otsuki, T., Sugiyama, T., Irie, R., Wakamatsu, A., Hayashi, K., Sato, H., Nagai, K., Kimura, K., Makita, H., Sekine, M., Obayashi, M., Nishi, T., Shibahara, T., et al. 2004. Complete sequencing and characterization of 21,243 full-length human cDNAs. *Nat. Genet.* 36: 40-45.
7. Brink, T.C., Sudheer, S., Janke, D., Jagodzinska, J., Jung, M. and Adjaye, J. 2008. The origins of human embryonic stem cells: a biological conundrum. *Cells Tissues Organs* 188: 9-22.

## CHROMOSOMAL LOCATION

Genetic locus: MS4A7 (human) mapping to 11q12.2.

## SOURCE

MS4A7 (SW-44) is a mouse monoclonal antibody raised against recombinant MS4A7 protein of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

MS4A7 (SW-44) is recommended for detection of MS4A7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MS4A7 siRNA (h): sc-96342, MS4A7 shRNA Plasmid (h): sc-96342-SH and MS4A7 shRNA (h) Lentiviral Particles: sc-96342-V.

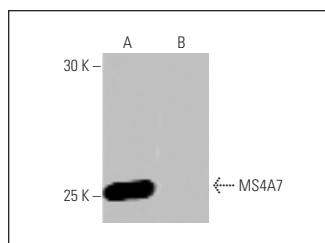
Molecular Weight of MS4A7: 26 kDa.

Positive Controls: human MS4A7 transfected 293T whole cell lysate.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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).

## DATA



MS4A7 (SW-44): sc-134394. Western blot analysis of MS4A7 expression in human MS4A7 transfected (A) and non-transfected (B) 293T whole cell lysates.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.