SANTA CRUZ BIOTECHNOLOGY, INC.

MS4A12 (N-14): sc-240709

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The Power to Question

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_0 to G_1 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. MS4A12 (membrane-spanning 4-domains, subfamily A, member 12) is a 267 amino acid multi-pass membrane protein that plays a role in signal transduction and is expressed primarily in colonocytes. The gene encoding MS4A12 maps to human chromosome 11q12.2.

REFERENCES

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2. Liang, Y. and Tedder, T.F. 2001. Identification of a CD20-, FcεRIβ-, and HTm4-related gene family: sixteen new MS4A family members expressed in human and mouse. Genomics 72: 119-127.
3. Liang, Y., et al. 2001. Structural organization of the human MS4A gene cluster on Chromosome 11q12. Immunogenetics 53: 357-368.
4. Gingras, M.C., et al. 2001. CFFM4: a new member of the CD20/FcεRIβ family. Immunogenetics 53: 468-476.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606550. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Koslowski, M., et al. 2008. MS4A12 is a colon-selective store-operated calcium channel promoting malignant cell processes. Cancer Res. 68: 3458-3466.
7. Koslowski, M., et al. 2009. Selective activation of tumor growth-promoting Ca^{2+} channel MS4A12 in colon cancer by caudal type homeobox transcription factor CDX2. Mol. Cancer 8: 77.

CHROMOSOMAL LOCATION

Genetic locus: MS4A12 (human) mapping to 11q12.2.

SOURCE

MS4A12 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of MS4A12 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-240709 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MS4A12 (N-14) is recommended for detection of MS4A12 of human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other MS4A family members.

Suitable for use as control antibody for MS4A12 siRNA (h): sc-97029, MS4A12 shRNA Plasmid (h): sc-97029-SH and MS4A12 shRNA (h) Lentiviral Particles: sc-97029-V.

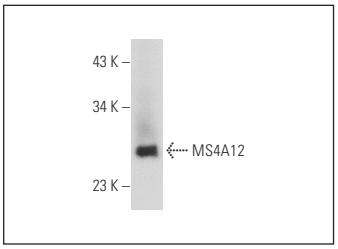
Molecular Weight of MS4A12: 28 kDa.

Positive Controls: human colon extract: sc-363757.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MS4A12 (N-14): sc-240709. Western blot analysis of MS4A12 expression in human colon tissue extract.

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 or our catalog for detailed protocols and support products.