SANTA CRUZ BIOTECHNOLOGY, INC.

MS4A15 (C-9): sc-515078

SANTA CRUZ BIOTECHNOLOGY

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. MS4A15 (membrane-spanning 4-domains, subfamily A, member 15) is a 240 amino acid multi-pass membrane protein that exists as two alternatively spliced isoforms. The gene encoding MS4A15 maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that map to chromosome 11.

REFERENCES

1. Fabiani, J.E., et al. 2000. Hereditary angioedema. Long-term follow-up of 88 patients. Experience of the Argentine Allergy and Immunology Institute. Allergol. Immunopathol. 28: 267-271.
2. Ishibashi, K., et al. 2001. Identification of a new multigene four-trans-membrane family (MS4A) related to CD20, HTm4 and β subunit of the high-affinity IgE receptor. Gene 264: 87-93.
3. 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.
4. Liang, Y., et al. 2001. Structural organization of the human MS4A gene cluster on chromosome 11q12. Immunogenetics 53: 357-368.
5. Jira, P.E., et al. 2003. Smith-Lemli-Opitz syndrome and the DHCR7 gene. Ann. Hum. Genet. 67: 269-280.

CHROMOSOMAL LOCATION

Genetic locus: MS4A15 (human) mapping to 11q12.2; Ms4a15 (mouse) mapping to 19 A.

SOURCE

MS4A15 (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 29-45 near the N-terminus of MS4A15 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-515078 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

MS4A15 (C-9) is recommended for detection of MS4A15 of mouse, rat and human 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MS4A15 siRNA (h): sc-96984, MS4A15 siRNA (m): sc-149646, MS4A15 shRNA Plasmid (h): sc-96984-SH, MS4A15 shRNA Plasmid (m): sc-149646-SH, MS4A15 shRNA (h) Lentiviral Particles: sc-96984-V and MS4A15 shRNA (m) Lentiviral Particles: sc-149646-V.

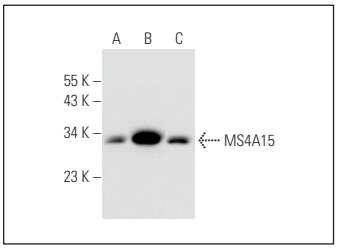
Molecular Weight of MS4A15 isoforms: 25/15 kDa.

Positive Controls: human lung extract: sc-363767, mouse heart extract: sc-2254 or human heart extract: sc-363763.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



MS4A15 (C-9): sc-515078. Western blot analysis of MS4A15 expression in human lung (**A**), mouse heart (**B**) and human heart (**C**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Fang, Y., et al. 2022. MS4A15 acts as an oncogene in ovarian cancer through reprogramming energy metabolism. Biochem. Biophys. Res. Commun. 598: 47-54.

STORAGE

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