

# NYD-SP21 (N-17): sc-243644

## BACKGROUND

The MS4A gene family in humans includes at least 16 genes that encode membrane proteins typically with tetraspanning topology. Notable genes of this family include CD20 (MS4A1), FcR (MS4A2) and Htm4 (MS4A3). Expression of MS4A genes is variable in tissue throughout the body. However, several are limited to cells in the hematopoietic system where they have known roles in immune cell functions. All MS4A genes are clustered on chromosome 11q in humans, in a region linked to allergy and atopy. Belonging to the MS4A family, testis development protein NYD-SP21, also known as MS4A14 (Membrane-spanning 4-domains subfamily A member 14), is a 679 amino acid protein that may be involved in signal transduction. NYD-SP21 is localized to the membrane, potentially as a component of a multimeric receptor complex. Three isoforms are produced by alternative splicing events.

## REFERENCES

- Sandford, A.J., Moffatt, M.F., Daniels, S.E., Nakamura, Y., Lathrop, G.M., Hopkin, J.M. and Cookson, W.O. 1995. A genetic map of chromosome 11q, including the atopy locus. *Eur. J. Hum. Genet.* 3: 188-194.
- 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.
- 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.
- 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.
- Ernst, J.A., Li, H., Kim, H.S., Nakamura, G.R., Yansura, D.G. and Vandlen, R.L. 2005. Isolation and characterization of the B-cell marker CD20. *Biochemistry* 44: 15150-15158.
- Tsai, P.S., Evans, J.E., Green, K.M., Sullivan, R.M., Schaumberg, D.A., Richards, S.M., Dana, M.R. and Sullivan, D.A. 2006. Proteomic analysis of human meibomian gland secretions. *Br. J. Ophthalmol.* 90: 372-377.
- Zuccolo, J., Bau, J., Childs, S.J., Goss, G.G., Sensen, C.W. and Deans, J.P. 2010. Phylogenetic analysis of the MS4A and TMEM176 gene families. *PLoS ONE* 5: e9369.

## CHROMOSOMAL LOCATION

Genetic locus: MS4A14 (human) mapping to 11q12.2.

## SOURCE

NYD-SP21 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of NYD-SP21 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-243644 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NYD-SP21 (N-17) is recommended for detection of NYD-SP21 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)], 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 NYD-SP family members.

Suitable for use as control antibody for NYD-SP21 siRNA (h): sc-96937, NYD-SP21 shRNA Plasmid (h): sc-96937-SH and NYD-SP21 shRNA (h) Lentiviral Particles: sc-96937-V.

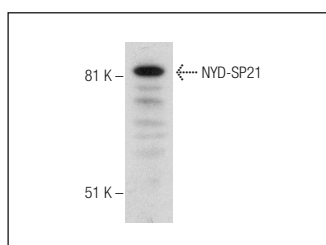
Molecular Weight of NYD-SP21 isoforms 1/2/3: 77/75/7 kDa.

Positive Controls: THP-1 cell lysate: sc-2238.

## 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



NYD-SP21 (N-17): sc-243644. Western blot analysis of NYD-SP21 expression in THP-1 whole cell lysate.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.