SANTA CRUZ BIOTECHNOLOGY, INC.

MS4A3 siRNA (h): sc-96546

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. MS4A3 (membrane-spanning 4-domains, subfamily A, member 3), also known as HTM4 (hematopoietic-specific transmembrane protein 4) or CD20L, is a 214 amino acid protein that acts as a modulator for the G_1-S cell cycle transition. A multi-pass membrane protein, MS4A3 localizes to the endomembrane system and is also found in the cytoplasm. MS4A3 is expressed in hematopoietic cells and tissues and interacts with CDKN3.

REFERENCES

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2. Ishibashi, K., Suzuki, M., Sasaki, S. and Imai, M. 2001. Identification of a new multigene four-transmembrane 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., 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.
5. Donato, J.L., Ko, J., Kutok, J.L., Cheng, T., Shirakawa, T., Mao, X.Q., Beach, D., Scadden, D.T., Sayegh, M.H. and Adra, C.N. 2002. Human HTm4 is a hematopoietic cell cycle regulator. J. Clin. Invest. 109: 51-58.
6. Gray, C.H. and Barford, D. 2003. Getting in the ring: proline-directed substrate specificity in the cell cycle proteins Cdc14 and CDK2-cyclin A3. Cell Cycle 2: 500-502.

CHROMOSOMAL LOCATION

Genetic locus: MS4A3 (human) mapping to 11q12.1.

PRODUCT

MS4A3 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MS4A3 shRNA Plasmid (h): sc-96546-SH and MS4A3 shRNA (h) Lentiviral Particles: sc-96546-V as alternate gene silencing products.

For independent verification of MS4A3 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-96546A, sc-96546B and sc-96546C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

MS4A3 siRNA (h) is recommended for the inhibition of MS4A3 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MS4A3 gene expression knockdown using RT-PCR Primer: MS4A3 (h)-PR: sc-96546-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.