

ADAM9 siRNA (m): sc-41409

BACKGROUND

The human ADAM9 gene maps to chromosome 8p11.22 and encodes an 819 amino acid glycoprotein that is present in brain, liver, heart, kidney, lung, and trachea. ADAM (a disintegrin and metalloprotease) glycoproteins are a family of over 30 membrane-anchored, Zn²⁺-dependent proteases that influence fertilization, muscle fusion, cytokine secretion, modulation of Notch-related neurogenic pathways, monocyte fusion, and many other cell adhesion-dependent events. ADAM proteins contain a signal domain, a pro domain, a metalloprotease domain, a disintegrin domain (Integrin ligand), a cysteine-rich region, an epidermal growth factor-like domain, a transmembrane (TM) domain (alternative splicing before the TM domain in ADAM11, 12, 17, and 28 can yield soluble forms), and a cytoplasmic tail. Removal of the amino-terminal signal peptide initiates secretion from the cell, or anchoring on the cell surface. Furin or furin-like proprotein convertase-dependent cleavage of the pro domain initiates catalytic activity of the Metalloprotease.

REFERENCES

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2. Gilpin, B.J., et al. 1998. A novel, secreted form of human ADAM 12 (Meltrin α) provokes myogenesis *in vivo*. *J. Biol. Chem.* 273: 157-166.
3. Roberts, C.M., et al. 1999. MDC-L, a novel metalloprotease disintegrin cysteine-rich protein family member expressed by human lymphocytes. *J. Biol. Chem.* 274: 29251-29259.
4. Stone, A.L., et al. 1999. Structure-function analysis of the ADAM family of disintegrin-like and metalloproteinase-containing proteins. *J. Protein Chem.* 18: 447-465.
5. Primakoff, P. and Myles, D.G. 2000. The ADAM gene family: surface proteins with adhesion and protease activity. *Trends Genet.* 16: 83-87.
6. Namba, K., et al. 2001. Involvement of ADAM9 in multinucleated giant cell formation of blood monocytes. *Cell. Immunol.* 213: 104-113.
7. Hotoda, N., et al. 2002. A secreted form of human ADAM9 has an α -secretase activity for APP. *Biochem. Biophys. Res. Commun.* 293: 800-805.
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CHROMOSOMAL LOCATION

Genetic locus: Adam9 (mouse) mapping to 8 A2.

PRODUCT

ADAM9 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ADAM9 shRNA Plasmid (m): sc-41409-SH and ADAM9 shRNA (m) Lentiviral Particles: sc-41409-V as alternate gene silencing products.

For independent verification of ADAM9 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-41409A, sc-41409B and sc-41409C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ADAM9 siRNA (m) is recommended for the inhibition of ADAM9 expression in mouse 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

ADAM9 (G-1): sc-377233 is recommended as a control antibody for monitoring of ADAM9 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ADAM9 gene expression knockdown using RT-PCR Primer: ADAM9 (m)-PR: sc-41409-PR (20 μ l, 610 bp). 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.