

AMIGO2 siRNA (h): sc-60164

BACKGROUND

The amphoterin-induced gene and ORF (AMIGO) family of proteins consists of AMIGO-1, AMIGO-2 and AMIGO-3. All three members are single pass type I membrane proteins that contain several leucine-rich repeats, one IgG domain, and a transmembrane domain. The AMIGO proteins are specifically expressed on fiber tracts of neuronal tissues and participate in their formation. The AMIGO proteins can form complexes with each other, but can also bind itself. AMIGO-1, also designated Alivin-2, promotes growth and fasciculation of neurites and plays a role in myelination and fasciculation of developing neural axons. In cerebellar neurons, AMIGO-2 (Alivin-1) is crucial for depolarization-dependent survival. Similar to AMIGO-1 and AMIGO-2, AMIGO-3 (Alivin-3) plays a role in homophilic and/or heterophilic cell-cell interaction and signal transduction.

REFERENCES

1. Kuja-Panula, J., et al. 2003. AMIGO, a transmembrane protein implicated in axon tract development, defines a novel protein family with leucine-rich repeats. *J. Cell Biol.* 160: 963-973.
2. Clark, H.F., et al. 2003. The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins: a bioinformatics assessment. *Genome Res.* 13: 2265-2270.
3. Ono, T., et al. 2003. Alivin 1, a novel neuronal activity-dependent gene, inhibits apoptosis and promotes survival of cerebellar granule neurons. *J. Neurosci.* 23: 5887-5896.
4. Chen, Y., et al. 2006. AMIGO and friends: an emerging type I transmembrane proteins with leucine-rich repeats (LRR) and cell adhesion molecule motifs. *Brain Res. Rev.* 51: 265-274.

CHROMOSOMAL LOCATION

Genetic locus: AMIGO2 (human) mapping to 12q13.11.

PRODUCT

AMIGO2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see AMIGO2 shRNA Plasmid (h): sc-60164-SH and AMIGO2 shRNA (h) Lentiviral Particles: sc-60164-V as alternate gene silencing products.

For independent verification of AMIGO2 (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-60164A, sc-60164B and sc-60164C.

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

AMIGO2 siRNA (h) is recommended for the inhibition of AMIGO2 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 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

AMIGO2 (G-7): sc-373699 is recommended as a control antibody for monitoring of AMIGO2 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 AMIGO2 gene expression knockdown using RT-PCR Primer: AMIGO2 (h)-PR: sc-60164-PR (20 μ l). 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.