SANTA CRUZ BIOTECHNOLOGY, INC.

ICAP-1 siRNA (m): sc-62486

BACKGROUND

ICAP-1 (integrin β-1-binding protein 1, Integrin cytoplasmic domain-associated protein 1) is a 200 amino acid protein encoded by the human gene ITGB1BP1. Integrins are transmembrane heterodimeric receptors for extracellular matrix and cell surface proteins. The binding of integrins to ligands in the extracellular matrix is linked to cell attachment and spreading, which in turn activates various cytosolic signal cascades to promote cell migration, survival, proliferation, and differentiation. ICAP-1 interacts with the cytoplasmic domain of Integrin β1 (ITGB1) to facilitate the recruitment of Integrin β1 to the focal contacts during integrin-dependent cell adhesion. ICAP-1 is a cytoplasmic protein that is primarily expressed in intestine, colon, testis, ovary, thymus, spleen and prostate.

REFERENCES

1. Chang, D.D., et al. 1997. ICAP-1, a novel β1 integrin cytoplasmic domain-associated protein, binds to a conserved and functionally important NPXY sequence motif of β1 integrin. J. Cell Biol. 138: 1149-1157.
2. Zhang, J., et al. 2001. Interaction between krit1 and icap1α infers perturbation of integrin β1-mediated angiogenesis in the pathogenesis of cerebral cavernous malformation. Hum. Mol. Genet. 10: 2953-2960.
3. Chang, D.D., et al. 2002. Molecular basis for interaction between Icap1 α PTB domain and β1 integrin. J. Biol. Chem. 277: 8140-8145.
4. Calderwood, D.A., et al. 2003. Integrin β cytoplasmic domain interactions with phosphotyrosine-binding domains: a structural prototype for diversity in integrin signaling. Proc. Natl. Acad. Sci. USA 100: 2272-2277.
5. Hillman, R.T., et al. 2004. An unappreciated role for RNA surveillance. Genome Biol. 5: R8.
6. Zawistowski, J.S., et al. 2005. CCM1 and CCM2 protein interactions in cell signaling: implications for cerebral cavernous malformations pathogenesis. Hum. Mol. Genet. 14: 2521-2531.

CHROMOSOMAL LOCATION

Genetic locus: Itgb1bp1 (mouse) mapping to 12 A1.2.

PRODUCT

ICAP-1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ICAP-1 shRNA Plasmid (m): sc-62486-SH and ICAP-1 shRNA (m) Lentiviral Particles: sc-62486-V as alternate gene silencing products.

For independent verification of ICAP-1 (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-62486A, sc-62486B and sc-62486C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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

ICAP-1 siRNA (m) is recommended for the inhibition of ICAP-1 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 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.

GENE EXPRESSION MONITORING

ICAP-1 (B-2): sc-166217 is recommended as a control antibody for monitoring of ICAP-1 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-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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ICAP-1 gene expression knockdown using RT-PCR Primer: ICAP-1 (m)-PR: sc-62486-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.