



Sipa1l3 siRNA (m): sc-153470

BACKGROUND

The Rap family of small GTPases is closely related to Ras and may function as an antagonist to the Ras signaling pathway by trapping Ras effectors in an inactive complex. Similar to other guanine-binding proteins (such as the heterotrimeric G proteins), the Ras proteins cycle between an active guanosine-triphosphate (GTP) bound form and an inactive guanosine-diphosphate (GDP) bound form. The weak intrinsic GTPase activity of Ras proteins is greatly enhanced by the action of GTPase-activating proteins (GAPs). Sipal13 (signal-induced proliferation-associated 1 like 3) is a Rap-specific GTPase-activating 1776 amino acid protein (RapGAP) that plays a role in tumor suppression as well as Rap1 myeloproliferative stem cell disorders. Sipal1 deficiency may be linked to multiple myeloid disorders, myelodysplastic syndrome and anemia, while Sipal1 surpluses suppress the reproduction of normal hematopoietic progenitors.

REFERENCES

1. Bos, J.L. 1998. All in the family? New insights and questions regarding interconnectivity of Ras, Rap1 and Ral. *EMBO J.* 17: 6776-6782.
2. Zwartkruis, F.J. and Bos, J.L. 1999. Ras and Rap1: two highly related small GTPases with distinct function. *Exp. Cell Res.* 253: 157-165.
3. Tsukamoto, N., Hattori, M., Yang, H., Bos, J.L. and Minato, N. 1999. Rap1 GTPase-activating protein SPA-1 negatively regulates cell adhesion. *J. Biol. Chem.* 274: 18463-18469.
4. Archelos, J.J. and Hartung, H.P. 2000. Pathogenetic role of autoantibodies in neurological diseases. *Trends Neurosci.* 23: 317-327.

CHROMOSOMAL LOCATION

Genetic locus: Sipal13 (mouse) mapping to 7 B1.

PRODUCT

Sipa1l3 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 Sipal13 shRNA Plasmid (m): sc-153470-SH and Sipal13 shRNA (m) Lentiviral Particles: sc-153470-V as alternate gene silencing products.

For independent verification of Sipal13 (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-153470A, sc-153470B and sc-153470C.

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

Sipa1l3 siRNA (m) is recommended for the inhibition of Sipal13 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Sipal13 gene expression knockdown using RT-PCR Primer: Sipal13 (m)-PR: sc-153470-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.