SANTA CRUZ BIOTECHNOLOGY, INC.

ACTR8 siRNA (m): sc-140849

BACKGROUND

ACTR8 (Actin-related protein 8), also known as ARP8 or INO80N, is a 624 amino acid protein that localizes to the cytoplasm and the cytoskeleton and belongs to the Actin family. Functioning as a component of the INO80 chromatin remodeling complex, ACTR8 interacts with a variety of other Actin-related proteins and, via these interactions, is thought to be involved in transcriptional regulation and chromosomal alignment events. The gene encoding ACTR8 maps to chromosome 3. Chromosome 3 is made up of about 214 million bases encoding over 1,100 genes. Notably, there is a chemokine receptor (CKR) gene cluster and a variety of human cancer-related loci on chromosome 3. Particular regions of the chromosome 3 short arm are deleted in many types of cancer cells. Key tumor suppressing genes on chromosome 3 encode apoptosis mediator RASSF1, cell migration regulator HYAL1 and angiogenesis suppressor SEMA3B. Marfan Syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

1. Shen, X., et al. 2003. Involvement of Actin-related proteins in ATP-dependent chromatin remodeling. Mol. Cell 12: 147-155.
2. Jin, J., et al. 2005. A mammalian chromatin remodeling complex with similarities to the yeast INO80 complex. J. Biol. Chem. 280: 41207-41212.
3. Muzny, D.M., et al. 2006. The DNA sequence, annotation and analysis of human chromosome 3. Nature 440: 1194-1198.
4. Ogiwara, H., et al. 2007. The INO80 chromatin remodeling complex functions in sister chromatid cohesion. Cell Cycle 6: 1090-1095.
5. van Attikum, H., et al. 2007. Distinct roles for SWR1 and INO80 chromatin remodeling complexes at chromosomal double-strand breaks. EMBO J. 26: 4113-4125.
6. Yu, E.Y., et al. 2007. Regulation of telomere structure and functions by subunits of the INO80 chromatin remodeling complex. Mol. Cell. Biol. 27: 5639-5649.

CHROMOSOMAL LOCATION

Genetic locus: Actr8 (mouse) mapping to 14 B.

PRODUCT

ACTR8 siRNA (m) is a target-specific 19-25 nt siRNA 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 ACTR8 shRNA Plasmid (m): sc-140849-SH and ACTR8 shRNA (m) Lentiviral Particles: sc-140849-V as alternate gene silencing products.

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

ACTR8 siRNA (m) is recommended for the inhibition of ACTR8 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ACTR8 gene expression knockdown using RT-PCR Primer: ACTR8 (m)-PR: sc-140849-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.