



## EF-HA1 siRNA (h): sc-105321

### BACKGROUND

The EF-hand domain is a twelve amino acid loop motif that is commonly found in proteins that participate in calcium-binding events within the cell. EF-hand domains generally exist in a pair that, together, form a stable four-helix bundle that enables the binding of calcium ions. EF-HA1 (EF-hand domain family, member A1) is a 434 amino acid protein that contains four EF-hand domains, suggesting a role in calcium-mediated events throughout the cell. The gene encoding EF-HA1 maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

### REFERENCES

1. Smith, M., et al. 2002. Molecular genetic delineation of a deletion of chromosome 13q12→q13 in a patient with autism and auditory processing deficits. *Cytogenet. Genome Res.* 98: 233-239.
2. Dunham, A., et al. 2004. The DNA sequence and analysis of human chromosome 13. *Nature* 428: 522-528.
3. Katoh, M., et al. 2005. Comparative genomics on FGF20 orthologs. *Oncol. Rep.* 14: 287-290.
4. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610632. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Bugge, M., et al. 2007. Non-disjunction of chromosome 13. *Hum. Mol. Genet.* 16: 2004-2010.
6. Hall, H.E., et al. 2007. The origin of trisomy 13. *Am. J. Med. Genet. A* 143A: 2242-2248.

### CHROMOSOMAL LOCATION

Genetic locus: EFHA1 (human) mapping to 13q12.11.

### PRODUCT

EF-HA1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EF-HA1 shRNA Plasmid (h): sc-105321-SH and EF-HA1 shRNA (h) Lentiviral Particles: sc-105321-V as alternate gene silencing products.

For independent verification of EF-HA1 (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-105321A, sc-105321B and sc-105321C.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

EF-HA1 siRNA (h) is recommended for the inhibition of EF-HA1 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  $\mu$ M in 66  $\mu$ 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 EF-HA1 gene expression knockdown using RT-PCR Primer: EF-HA1 (h)-PR: sc-105321-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.