SANTA CRUZ BIOTECHNOLOGY, INC.

EFO1 siRNA (m): sc-62258

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The Power to Question

BACKGROUND

EFO1 (establishment factor-like protein 1), also known as ESCO1 (establishment of cohesion 1 homolog1) or ESO1, is a member of the acetyltransferase family (GCN5 subfamily). It is a ubiquitously expressed nuclear protein that plays an important role in sister chromatid cohesion. At its C-terminus, EFO1 contains an H_2C_2 zinc finger motif and an acetyltransferase domain that exhibits acetyltransferase activity *in vivo*. Its N-terminus, containing two domains that are similar to δ- and β-type linker histone proteins, is essential for EFO1 association with chromosomes. EFO1 is responsible for coupling cohesion and DNA replication processes thereby ensuring proper pairing of sister chromatids. EFO1 is phosphorylated during mitosis and this may act to regulate EFO1 activity. Due to alternative splicing events, three EFO1 isoforms exist.

REFERENCES

1. Tanaka, K., et al. 2001. Establishment and maintenance of sister chromatid cohesion in fission yeast by a unique mechanism. EMBO J. 20: 5779-5790.
2. Nagase, T., et al. 2001. Prediction of the coding sequences of unidentified human genes. XXI. The complete sequences of 60 new cDNA clones from brain which code for large proteins. DNA Res. 8: 179-187.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609674. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Bellows, A.M., et al. 2003. Human EFO1p exhibits acetyltransferase activity and is a unique combination of linker histone and Ctf7p/Eco1p chromatid cohesion establishment domains. Nucleic Acids Res. 31: 6334-6343.
5. Hou, F., et al. 2005. Two human orthologues of Eco1/Ctf7 acetyltransferases are both required for proper sister-chromatid cohesion. Mol. Biol. Cell 16: 3908-3918.
6. Unal, E., et al. 2007. DNA double-strand breaks trigger genome-wide sister-chromatid cohesion through Eco1 (Ctf7). Science 317: 245-248.

CHROMOSOMAL LOCATION

Genetic locus: Esco1 (mouse) mapping to 18 A1.

PRODUCT

EFO1 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 EFO1 shRNA Plasmid (m): sc-62258-SH and EFO1 shRNA (m) Lentiviral Particles: sc-62258-V as alternate gene silencing products.

For independent verification of EFO1 (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-62258A, sc-62258B and sc-62258C.

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

EFO1 siRNA (m) is recommended for the inhibition of EFO1 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 EFO1 gene expression knockdown using RT-PCR Primer: EFO1 (m)-PR: sc-62258-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.