

Taspase 1 siRNA (h): sc-76632

BACKGROUND

Taspase 1, also known as TASP1 or C20orf13, is a 420 amino acid endopeptidase which cleaves specific substrates following aspartate residues and is required for MLL (myeloid/lymphoid or mixed-lineage leukemia) processing and, ultimately, correct expression of the Hox A gene cluster. After translation, Taspase 1 is subject to autoproteolytic processing which results in the creation of two subunits, designated α and β , which reassemble into a multimeric structure and are required for proper Taspase 1 activity. The gene encoding Taspase 1 maps to human chromosome 20. Comprising approximately 2% of the human genome, chromosome 20 contains nearly 63 million bases that encode over 600 genes, some of which are associated with Creutzfeldt-Jakob disease, amyotrophic lateral sclerosis, spinal muscular atrophy, RING chromosome 20 epilepsy syndrome and Alagille syndrome.

REFERENCES

1. Hsieh, J.J., et al. 2003. Taspase 1: a threonine aspartase required for cleavage of MLL and proper HOX gene expression. *Cell* 115: 293-303.
2. Hsieh, J.J., et al. 2003. Proteolytic cleavage of MLL generates a complex of N- and C-terminal fragments that confers protein stability and subnuclear localization. *Mol. Cell. Biol.* 23: 186-194.
3. Popovic, R., et al. 2005. MLL: how complex does it get? *J. Cell. Biochem.* 95: 234-242.
4. Khan, J.A., et al. 2005. Crystal structure of human Taspase 1, a crucial protease regulating the function of MLL. *Structure* 13: 1443-1452.
5. Zhou, H., et al. 2006. Uncleaved TFIIA is a substrate for Taspase 1 and active in transcription. *Mol. Cell. Biol.* 26: 2728-2735.

CHROMOSOMAL LOCATION

Genetic locus: TASP1 (human) mapping to 20p12.1.

PRODUCT

Taspase 1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Taspase 1 shRNA Plasmid (h): sc-76632-SH and Taspase 1 shRNA (h) Lentiviral Particles: sc-76632-V as alternate gene silencing products.

For independent verification of Taspase 1 (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-76632A, sc-76632B and sc-76632C.

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

Taspase 1 siRNA (h) is recommended for the inhibition of Taspase 1 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 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.

GENE EXPRESSION MONITORING

Taspase 1 (D-6): sc-514677 is recommended as a control antibody for monitoring of Taspase 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Taspase 1 gene expression knockdown using RT-PCR Primer: Taspase 1 (h)-PR: sc-76632-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.