

OTUD7B siRNA (h): sc-78957

BACKGROUND

OTUD7B (OTU domain-containing protein 7B), also known as ZA20D1 or Cezanne, is an 843 amino acid protein that localizes to both the nucleus and the cytoplasm. Expressed in a variety of tissues, including liver, kidney, heart and immature B cells, OTUD7B functions to hydrolyze branched and linear forms of polyubiquitin, specifically deubiquitinating Lys 48- and Lys 63-linked polyubiquitin chains. Via its ability to deubiquitinate target proteins, OTUD7B regulates the inflammatory response within the cell and may play a role in cell survival. More specifically, OTUD7B forms a negative feedback loop in pro-inflammatory signaling, thereby suppressing NFκB activity and helping to resolve inflammatory responses. OTUD7B contains one C-terminal A20-type zinc-finger, one OTU domain and one N-terminal TRAF-binding domain through which it conveys its deubiquitinating activity.

REFERENCES

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- Evans, P.C., et al. 2001. Isolation and characterization of two novel A20-like proteins. *Biochem. J.* 357: 617-623.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611748. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Evans, P.C., et al. 2003. A novel type of deubiquitinating enzyme. *J. Biol. Chem.* 278: 23180-23186.
- Evans, P.C., et al. 2004. Zinc-finger protein A20, a regulator of inflammation and cell survival, has deubiquitinating activity. *Biochem. J.* 378: 727-734.
- La Starza, R., et al. 2007. A common 93-kb duplicated DNA sequence at 1q21.2 in acute lymphoblastic leukemia and Burkitt lymphoma. *Cancer Genet. Cytogenet.* 175: 73-76.
- Enea, K., et al. 2008. NFκB suppression by the deubiquitinating enzyme Cezanne: a novel negative feedback loop in pro-inflammatory signaling. *J. Biol. Chem.* 283: 7036-7045.

CHROMOSOMAL LOCATION

Genetic locus: OTUD7B (human) mapping to 1q21.2.

PRODUCT

OTUD7B 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 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see OTUD7B shRNA Plasmid (h): sc-78957-SH and OTUD7B shRNA (h) Lentiviral Particles: sc-78957-V as alternate gene silencing products.

For independent verification of OTUD7B (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-78957A, sc-78957B and sc-78957C.

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

OTUD7B siRNA (h) is recommended for the inhibition of OTUD7B 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 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.

GENE EXPRESSION MONITORING

OTUD7B (H-4): sc-514402 is recommended as a control antibody for monitoring of OTUD7B 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 OTUD7B gene expression knockdown using RT-PCR Primer: OTUD7B (h)-PR: sc-78957-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.