

FBXO15 siRNA (h): sc-75007

BACKGROUND

FBXO15 (F-box only protein 15), also known as FBX15, is a 434 amino acid protein that contains one C-terminal F-box domain and belongs to the F-box family of proteins. F-box proteins are critical components of the SCF (Skp1-CUL1-F-box protein) type E3 ubiquitin ligase complex and are involved in substrate recognition and recruitment for ubiquitination. They are members of a larger family of proteins that are involved in the regulation of a wide variety of cellular processes (including the cell cycle, immune response, signaling cascades and developmental processes) through the targeting of proteins, such as cyclins, cyclin-dependent kinase inhibitors, I κ B- α and β -catenin, for degradation by the proteasome after ubiquitination. Via its F-box domain, FBXO15 can directly interact with Skp1 p19 and CUL-1. In addition, FBXO15 is a target of the transcription factor Oct-3/4, however, it does not appear to be essential for early development and fertility.

REFERENCES

1. Cenciarelli, C., Chiaur, D.S., Guardavaccaro, D., Parks, W., Vidal, M. and Pagano, M. 1999. Identification of a family of human F-box proteins. *Curr. Biol.* 9: 1177-1179.
2. Winston, J.T., Koepp, D.M., Zhu, C., Elledge, S.J. and Harper, J.W. 1999. A family of mammalian F-box proteins. *Curr. Biol.* 9: 1180-1182.
3. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609093. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Tokuzawa, Y., Kaiho, E., Maruyama, M., Takahashi, K., Mitsui, K., Maeda, M., Niwa, H. and Yamanaka, S. 2003. Fbx15 is a novel target of Oct3/4 but is dispensable for embryonic stem cell self-renewal and mouse development. *Mol. Cell. Biol.* 23: 2699-2708.
5. Jin, J., Cardozo, T., Lovering, R.C., Elledge, S.J., Pagano, M. and Harper, J.W. 2004. Systematic analysis and nomenclature of mammalian F-box proteins. *Genes Dev.* 18: 2573-2580.
6. Okumura-Nakanishi, S., Saito, M., Niwa, H. and Ishikawa, F. 2005. Oct-3/4 and Sox2 regulate Oct-3/4 gene in embryonic stem cells. *J. Biol. Chem.* 280: 5307-5317.
7. Takahashi, K. and Yamanaka, S. 2006. Induction of pluripotent stem cells from mouse embryonic and adult fibroblast cultures by defined factors. *Cell* 126: 663-676.
8. Okita, K., Ichisaka, T. and Yamanaka, S. 2007. Generation of germline-competent induced pluripotent stem cells. *Nature* 448: 313-317.
9. Wernig, M., Meissner, A., Foreman, R., Brambrink, T., Ku, M., Hochedlinger, K., Bernstein, B.E. and Jaenisch, R. 2007. *In vitro* reprogramming of fibroblasts into a pluripotent ES-cell-like state. *Nature* 448: 318-324.

CHROMOSOMAL LOCATION

Genetic locus: FBXO15 (human) mapping to 18q22.3.

PROTOCOLS

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

PRODUCT

FBXO15 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 FBXO15 shRNA Plasmid (h): sc-75007-SH and FBXO15 shRNA (h) Lentiviral Particles: sc-75007-V as alternate gene silencing products.

For independent verification of FBXO15 (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-75007A, sc-75007B and sc-75007C.

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

FBXO15 siRNA (h) is recommended for the inhibition of FBXO15 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FBXO15 gene expression knockdown using RT-PCR Primer: FBXO15 (h)-PR: sc-75007-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.