SANTA CRUZ BIOTECHNOLOGY, INC.

FBXO47 siRNA (h): sc-93588

BACKGROUND

FBXO47 (F-box only protein 47) is a 452 amino acid protein that contains one forty amino acid F-box region, making it a member of the F-box family. F-box proteins are critical components of the SCF (Skp1-CUL-1-F-box protein) type E3 ubiquitin ligase complex and are involved in substrate recognition and recruitment for ubiquitination. F-box proteins are members of a large family that regulates cell cycle, immune response, signaling cascades and developmental programs by targeting proteins, such as cyclins, cyclin-dependent kinase inhibitors, IκB-α and β-catenin, for degradation by the proteasome after ubiquitination. Functioning as a component of the SCF complex, FBXO47 is thought to recognize and bind to select phosphorylated proteins, thereby promoting their ubiquitination and subsequent degradation. FBXO7 is widely expressed with highest expression in kidney, liver and pancreas, and is down-regulated in tumors. Therefore, FBXO47 may be a potential tumor-suppressor gene.

REFERENCES

1. Winston, J.T., Strack, P., Beer-Romero, P., Chu, C.Y., Elledge, S.J. and Harper, J.W. 1999. The SCFβ-TrCP-ubiquitin ligase complex associates specifically with phosphorylated destruction motifs in IκB-α and β-catenin and stimulates IκB-α ubiquitination *in vitro*. Genes Dev. 13: 270-283.
2. 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.
3. 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.
4. Craig, K.L. and Tyers, M. 1999. The F-box: a new motif for ubiquitin dependent proteolysis in cell cycle regulation and signal transduction. Prog. Biophys. Mol. Biol. 72: 299-328.
5. Ilyin, G.P., Rialland, M., Pigeon, C. and Guguen-Guillouzo, C. 2000. cDNA cloning and expression analysis of new members of the mammalian F-box protein family. Genomics 67: 40-47.
6. Schulman, B.A., Carrano, A.C., Jeffrey, P.D., Bowen, Z., Kinnucan, E.R., Finnin, M.S., Elledge, S.J., Harper, J.W., Pagano, M. and Pavletich, N.P. 2000. Insights into SCF ubiquitin ligases from the structure of the Skp1-Skp2 complex. Nature 408: 381-386.
7. Ilyin, G.P., Serandour, A.L., Pigeon, C., Rialland, M., Glaise, D. and Guguen-Guillouzo, C. 2002. A new subfamily of structurally related human F-box proteins. Gene 296: 11-20.
8. Simon-Kayser, B., Scoul, C., Renaudin, K., Jezequel, P., Bouchot, O., Rigaud, J. and Bezieau, S. 2005. Molecular cloning and characterization of FBXO47, a novel gene containing an F-box domain, located in the 17q12 band deleted in papillary renal cell carcinoma. Genes Chromosomes Cancer 43: 83-94.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: FBXO47 (human) mapping to 17q12.

PRODUCT

FBXO47 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 FBXO47 shRNA Plasmid (h): sc-93588-SH and FBXO47 shRNA (h) Lentiviral Particles: sc-93588-V as alternate gene silencing products.

For independent verification of FBXO47 (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-93588A, sc-93588B and sc-93588C.

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

FBXO47 siRNA (h) is recommended for the inhibition of FBXO47 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FBXO47 gene expression knockdown using RT-PCR Primer: FBXO47 (h)-PR: sc-93588-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.