SANTA CRUZ BIOTECHNOLOGY, INC.

FBXO6 siRNA (m): sc-145133

BACKGROUND

In eukaryotes, degradation of damaged or excess proteins into short peptides is carried out by proteasomes. The proteasomes bind polyubiquitin chains that are added to the target proteins through a phosphorylation-dependent reaction catalyzed by ubiquitin ligases, such as the SCF-type E3 complex containing Skp, Cullin, Rbx1 and F-box proteins. F-box proteins, such as FBXO6 (F-box only protein 6), possess structural motifs used for directly aggregating the substrate while binding to the Skp1 bridge providing for close proximity to the functional E2 ubiquitin-conjugating enzyme, Cullin/Rbx1. FBXO6, also known as FBG2 or FBX6, is a 293 amino acid protein that contains a 40 amino acid binding motif. Human FBXO6 shows significant sequence identity to rat NFB42, a protein related to cell cycle control. High expression of FBXO6 is known in brain, skeletal muscle, spleen, liver and testis.

REFERENCES

1. Cenciarelli, C., et al. 1999. Identification of a family of human F-box proteins. Curr. Biol. 9: 1177-1179.
2. Winston, J.T., et al. 1999. A family of mammalian F-box proteins. Curr. Biol. 9: 1180-1182.
3. Ilyin, G.P., et al. 2000. cDNA cloning and expression analysis of new members of the mammalian F-box protein family. Genomics 67: 40-47.
4. Ilyin, G.P., et al. 2002. A new subfamily of structurally related human F-box proteins. Gene 296: 11-20.
5. Jin, J., et al. 2004. Systematic analysis and nomenclature of mammalian F-box proteins. Genes Dev. 18: 2573-2580.
6. Glenn, K.A., et al. 2008. Diversity in tissue expression, substrate binding, and SCF complex formation for a lectin family of ubiquitin ligases. J. Biol. Chem. 283: 12717-12729.

CHROMOSOMAL LOCATION

Genetic locus: Fbxo6 (mouse) mapping to 4 E2.

PRODUCT

FBXO6 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 FBXO6 shRNA Plasmid (m): sc-145133-SH and FBXO6 shRNA (m) Lentiviral Particles: sc-145133-V as alternate gene silencing products.

For independent verification of FBXO6 (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-145133A, sc-145133B and sc-145133C.

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

FBXO6 siRNA (m) is recommended for the inhibition of FBXO6 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 FBXO6 gene expression knockdown using RT-PCR Primer: FBXO6 (m)-PR: sc-145133-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kondo, S., et al. 2012. Activation of OASIS family, ER stress transducers, is dependent on its stabilization. Cell Death Differ. 19: 1939-1949.

RESEARCH USE

For research use only, not for use in diagnostic procedures.