

## FBXO6 siRNA (h): sc-88674

### 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

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3. 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.
4. Ilyin, G.P., Sérandour, 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.
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. Glenn, K.A., Nelson, R.F., Wen, H.M., Mallinger, A.J. and Paulson, H.L. 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 (human) mapping to 1p36.22.

### PRODUCT

FBXO6 siRNA (h) is a pool of 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FBXO6 shRNA Plasmid (h): sc-88674-SH and FBXO6 shRNA (h) Lentiviral Particles: sc-88674-V as alternate gene silencing products.

For independent verification of FBXO6 (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-88674A and sc-88674B.

### 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

FBXO6 siRNA (h) is recommended for the inhibition of FBXO6 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  $\mu$ M in 66  $\mu$ 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

FBXO6 (7B11): sc-134339 is recommended as a control antibody for monitoring of FBXO6 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 FBXO6 gene expression knockdown using RT-PCR Primer: FBXO6 (h)-PR: sc-88674-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.