SANTA CRUZ BIOTECHNOLOGY, INC.

FBL18 siRNA (m): sc-145092

BACKGROUND

FBL18 (F-box and leucine-rich repeat protein 18), also known as FBXL18, is an 805 amino acid protein that contains an F-box near its N-terminus, followed by several leucine-rich repeats and a transmembrane domain at the C-terminus. 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. 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 and cyclin-dependent kinase inhibitors (CDKNs), for degradation by the proteasome after ubiquitination. FBL18 directly interacts with SKP1A p19 and CUL-1, forming a substrate-recognition component of the SCF-type E3 ubiquitin ligase complex. Four isoforms of FBL18 exist due to alternative splicing.

REFERENCES

1. Winston, J.T., et al. 1999. A family of mammalian F-box proteins. Curr. Biol. 9: 1180-1182.
2. Cenciarelli, C., et al. 1999. Identification of a family of human F-box proteins. Curr. Biol. 9: 1177-1179.
3. Jin, J., et al. 2004. Systematic analysis and nomenclature of mammalian F-box proteins. Genes Dev. 18: 2573-2580.
4. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 609084. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Yoshida, Y. 2007. F-box proteins that contain sugar-binding domains. Biosci. Biotechnol. Biochem. 71: 2623-2631.
6. Cooke, P.S., et al. 2007. The F box protein S phase kinase-associated protein 2 regulates adipose mass and adipocyte number *in vivo*. Obesity 5: 1400-1408.
7. Bernis, C., et al. 2007. Pin1 stabilizes Emi1 during G_2 phase by preventing its association with $SCF^{\beta trcp}$. EMBO Rep. 8: 91-98.
8. SWISS-PROT/TrEMBL (Q96ME1). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: Fbxl18 (mouse) mapping to 5 G2.

PRODUCT

FBL18 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 FBL18 shRNA Plasmid (m): sc-145092-SH and FBL18 shRNA (m) Lentiviral Particles: sc-145092-V as alternate gene silencing products.

For independent verification of FBL18 (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-145092A, sc-145092B and sc-145092C.

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

FBL18 siRNA (m) is recommended for the inhibition of FBL18 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 FBL18 gene expression knockdown using RT-PCR Primer: FBL18 (m)-PR: sc-145092-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. Ding, X., et al. 2017. Fbxl18 targets LRRK2 for proteasomal degradation and attenuates cell toxicity. Neurobiol. Dis. 98: 122-136.

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.