SANTA CRUZ BIOTECHNOLOGY, INC.

FBL11 siRNA (h): sc-96991

BACKGROUND

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 protein recruitment. F-box proteins are members of a large family that regulate the cell cycle, immune response, signaling cascades and developmental programs by targeting proteins, such as cyclins, for degradation by the proteasome after ubiquitination. FBL11, also known as FBXL11 (F-box and leucine-rich repeat protein 11), CXXC8, KDM2A, JHDM1A (JmjC domain-containing histone demethylation protein 1A) or LILINA, is a 1,162 amino acid member of the F-box protein family that contains one F-box domain and localizes to the nucleus. Expressed ubiquitously with highest expression in testis, ovary and brain, FBL11 functions to demethylate the Lys 36 residue of Histone H3, thereby modulating the histone code. Additionally, FBL11 is thought to promote the ubiquitination and subsequent degradation of various phosphorylated proteins. Three isoforms of FBL11 exist due to alternative splicing events.

REFERENCES

1. 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.
2. Nagase, T., Ishikawa, K., Suyama, M., Kikuno, R., Hirosawa, M., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1999. Prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 6: 63-70.
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. 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.
5. Tsukada, Y., Fang, J., Erdjument-Bromage, H., Warren, M.E., Borchers, C.H., Tempst, P. and Zhang, Y. 2006. Histone demethylation by a family of JmjC domain-containing proteins. Nature 439: 811-816.

CHROMOSOMAL LOCATION

Genetic locus: KDM2A (human) mapping to 11q13.2.

PRODUCT

FBL11 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 FBL11 shRNA Plasmid (h): sc-96991-SH and FBL11 shRNA (h) Lentiviral Particles: sc-96991-V as alternate gene silencing products.

For independent verification of FBL11 (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-96991A, sc-96991B and sc-96991C.

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

FBL11 siRNA (h) is recommended for the inhibition of FBL11 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 FBL11 gene expression knockdown using RT-PCR Primer: FBL11 (h)-PR: sc-96991-PR (20 µl, 532 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Rizwani, W., Schaal, C., Kunigal, S., Coppola, D. and Chellappan, S. 2014. Mammalian lysine histone demethylase KDM2A regulates E2F1-mediated gene transcription in breast cancer cells. PLoS ONE 9: e100888.
2. Naik, N.G., Lee, S.C., Alonso, J.D. and Toth, Z. 2021. KDM2B overexpression facilitates lytic *de novo* KSHV infection by inducing AP-1 activity through interaction with the SCF E3 ubiquitin ligase complex. J. Virol. 95: e00331-21.

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.