SANTA CRUZ BIOTECHNOLOGY, INC.

URB siRNA (h): sc-78062

BACKGROUND

The URB protein, also designated coiled-coil domain-containing protein 80 (CCDC80) or Down-regulated by oncogenes protein 1 (DRO1), is secreted from adipocytes and is thought to play a role in obesity. Loss of URB function inhibits adipocyte differentiation, down-regulates WNt/β-catenin signaling and induces activation of C/EBPα and peroxisome proliferator-activated receptor γ (PPARγ). URB is also expressed in dermal papilla and dermal fibroblasts as well as heart, thymus, placenta, pancreas, colon, epithelium, spleen and osteoblasts. Reduced expression of URB is observed in colon, colorectal and pancreatic cancer cell lines, suggesting an important role for URB in the pathogenesis of neoplasms. Three isoforms of URB exist as a result of alternative splicing events.

REFERENCES

1. Liu, Y., et al. 2004. URB expression in human bone marrow stromal cells and during mouse development. Biochem. Biophys. Res. Commun. 322: 497-507.
2. Bommer, G.T., et al. 2005. DRO1, a gene down-regulated by oncogenes, mediates growth inhibition in colon and pancreatic cancer cells. J. Biol. Chem. 280: 7962-7975.
3. Cha, S.Y., et al. 2005. URB expression in human dermal papilla cells. J. Dermatol. Sci. 39: 128-130.
4. Okada, T., et al. 2008. URB is abundantly expressed in adipose tissue and dysregulated in obesity. Biochem. Biophys. Res. Commun. 367: 370-376.
5. Tremblay, F., et al. 2009. Bidirectional modulation of adipogenesis by the secreted protein Ccdc80/DRO1/URB. J. Biol. Chem. 284: 8136-8147.

CHROMOSOMAL LOCATION

Genetic locus: CCDC80 (human) mapping to 3q13.2.

PRODUCT

URB 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 URB shRNA Plasmid (h): sc-78062-SH and URB shRNA (h) Lentiviral Particles: sc-78062-V as alternate gene silencing products.

For independent verification of URB (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-78062A, sc-78062B and sc-78062C.

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

URB siRNA (h) is recommended for the inhibition of URB 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 URB gene expression knockdown using RT-PCR Primer: URB (h)-PR: sc-78062-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.

PROTOCOLS

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