SANTA CRUZ BIOTECHNOLOGY, INC.

HEBP2 siRNA (m): sc-145926

BACKGROUND

HEBP2 (heme-binding protein 2), also known as SOUL, PP23 (placental protein 23) or C6orf34, is a 205 amino acid protein that belongs to the HEBP family. Localizing primarily to the cytoplasm, with lower quantities found in the mitochondrion, HEBP2 is expressed in placenta. HEBP2 has the ability to enable necrotic cell death under stress conditions by promoting mitochondrial permeability transition (mPT). HEBP2 interacts with LRP130 and exists as two alternatively spliced isoforms. The gene encoding HEBP2 maps to human chromosome 6q23.3 and mouse chromosome 10 A3. Chromosome 5 contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

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2. Zylka, M.J. and Reppert, S.M. 1999. Discovery of a putative heme-binding protein family (SOUL/HBP) by two-tissue suppression subtractive hybridization and database searches. Brain Res. Mol. Brain Res. 74: 175-181.
3. Szigeti, A., et al. 2006. Induction of necrotic cell death and mitochondrial permeabilization by heme binding protein 2/SOUL. FEBS Lett. 580: 6447-6454.
4. Freire, F., et al. 2009. Preliminary structural characterization of human SOUL, a haem-binding protein. Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun. 65: 723-726.
5. Szigeti, A., et al. 2010. Facilitation of mitochondrial outer and inner membrane permeabilization and cell death in oxidative stress by a novel Bcl-2 homology 3 domain protein. J. Biol. Chem. 285: 2140-2151.
6. Farkas, R., et al. 2011. Correlation between tumor-associated proteins and response to neoadjuvant treatment in patients with advanced squamous-cell esophageal cancer. Anticancer Res. 31: 1769-1775.

CHROMOSOMAL LOCATION

Genetic locus: Hebp2 (mouse) mapping to 10 A3.

PRODUCT

HEBP2 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 HEBP2 shRNA Plasmid (m): sc-145926-SH and HEBP2 shRNA (m) Lentiviral Particles: sc-145926-V as alternate gene silencing products.

For independent verification of HEBP2 (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-145926A, sc-145926B and sc-145926C.

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

HEBP2 siRNA (m) is recommended for the inhibition of HEBP2 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 HEBP2 gene expression knockdown using RT-PCR Primer: HEBP2 (m)-PR: sc-145926-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.