SANTA CRUZ BIOTECHNOLOGY, INC.

TP53INP2 siRNA (h): sc-76717

BACKGROUND

TP53INP2 (tumor protein p53 inducible nuclear protein 2), also known as DOR or PINH, is a 220 amino acid nuclear protein that is expressed in developing murine brain and spinal cord, as well as in the sensory and motor neuron tracts of the peripheral nervous system. A novel protein involved in the autophagy of mammalian cells, TP53INP2 translocates from the nucleus to the autophagosome structures after activation of autophagy by rapamycin or starvation. Necessary for autophagosome development and considered a scaffold protein, TP53INP2 recruits LC3 and/or LC3-related proteins, such as GABARAP and GABARAP-like2, to the autophagosome membrane by interacting with the transmembrane protein TMEM49. The gene encoding TP53INP2 is located on human chromosome 20, which is comprised of approximately 2% of the human genome and contains nearly 63 million bases that encode over 600 genes.

REFERENCES

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2. Nowak, J., et al. 2002. Assignment of tumor protein p53 induced nuclear protein 1 (TP53INP1) gene to human chromosome band 8q22 by *in situ* hybridization. Cytogenet. Genome Res. 97: 140E.
3. Tomasini, R., et al. 2002. P53-dependent expression of the stress-induced protein (SIP). Eur. J. Cell Biol. 81: 294-301.
4. Nowak, J., et al. 2005. Assignment of the tumor protein p53 induced nuclear protein 2 (TP53INP2) gene to human chromosome band 20q11.2 by *in situ* hybridization. Cytogenet. Genome Res. 108: 362.
5. Bennetts, J.S., et al. 2007. The coding region of TP53INP2, a gene expressed in the developing nervous system, is not altered in a family with autosomal recessive non-progressive infantile ataxia on chromosome 20q11-q13. Dev. Dyn. 236: 843-852.
6. Nowak, J., et al. 2009. TP53INP2 is the new guest at the table of self-eating. Autophagy 5: 383-384.
7. Moran-Jones, K., et al. 2009. hnRNP A2 regulates alternative mRNA splicing of TP53INP2 to control invasive cell migration. Cancer Res. 69: 9219-9227.
8. Nowak, J., et al. 2009. The TP53INP2 protein is required for autophagy in mammalian cells. Mol. Biol. Cell 20: 870-881.

CHROMOSOMAL LOCATION

Genetic locus: TP53INP2 (human) mapping to 20q11.22.

PRODUCT

TP53INP2 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 TP53INP2 shRNA Plasmid (h): sc-76717-SH and TP53INP2 shRNA (h) Lentiviral Particles: sc-76717-V as alternate gene silencing products.

For independent verification of TP53INP2 (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-76717A, sc-76717B and sc-76717C.

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

TP53INP2 siRNA (h) is recommended for the inhibition of TP53INP2 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 TP53INP2 gene expression knockdown using RT-PCR Primer: TP53INP2 (h)-PR: sc-76717-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.