SANTA CRUZ BIOTECHNOLOGY, INC.

IPP siRNA (h): sc-78589

BACKGROUND

IPP (intracisternal A particle-promoted polypeptide), also known as Actin-binding protein IPP or KLHL27 (Kelch-like protein 27), is a 584 amino acid protein that contains six Kelch repeats and one BTB (POZ) domain, and belongs to the Kelch family of proteins. Members of the Kelch family are typically characterized by the presence of a 50 amino acid repeat which interacts directly with Actin. Localizing to the cytoplasm, IPP may play a role in the organization of the Actin cytoskeleton. IPP exists as two alternatively spliced isoforms and is encoded by a gene that maps to human chromosome 1p34.1. Human chromosome 1 spans 260 million base pairs, contains over 3,000 genes, comprises nearly 8% of the human genome and houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome.

REFERENCES

1. Chang-Yeh, A., Jabs, E.W., Li, X., Dracopoli, N.C. and Huang, R.C. 1993. The IPP gene is assigned to human chromosome 1p32-1p22. Genomics 15: 239-241.
2. Kim, I.F., Mohammadi, E. and Huang, R.C. 1999. Isolation and characterization of IPP, a novel human gene encoding an Actin-binding, Kelch-like protein. Gene 228: 73-83.
3. ayebi, N., Callahan, M., Madike, V., Stubblefield, B.K., Orvisky, E., Krasnewich, D., Fillano, J.J. and Sidransky, E. 2001. Gaucher disease and parkinsonism: a phenotypic and genotypic characterization. Mol. Genet. Metab. 73: 313-321.
4. VanHouten, J.N., Asch, H.L. and Asch, B.B. 2001. Cloning and characterization of ectopically expressed transcripts for the Actin-binding protein MIPP in mouse mammary carcinomas. Oncogene 20: 5366-5372.
5. Takahashi, K., Inuzuka, M. and Ingi, T. 2004. Cellular signaling mediated by calphoglin-induced activation of IPP and PGM. Biochem. Biophys. Res. Commun. 325: 203-214.
6. Oliveira, S.A., Li, Y.J., Noureddine, M.A., Zuchner, S., Qin, X., Pericak-Vance, M.A. and Vance, J.M. 2005. Identification of risk and age-at-onset genes on chromosome 1p in Parkinson disease. Am. J. Hum. Genet. 77: 252-264.
7. Holliday, E.G., Nyholt, D.R., Tirupati, S., John, S., Ramachandran, P., Ramamurti, M., Ramadoss, A.J., Jeyagurunathan, A., Kottiswaran, S., Smith, H.J., Filippich, C., et al. 2009. Strong evidence for a novel schizophrenia risk locus on chromosome 1p31.1 in homogeneous pedigrees from Tamil Nadu, India. Am. J. Psychiatry 166: 206-215.
8. Yokoi, T., Koide, R., Matsuoka, K., Nakagawa, A. and Azuma, N. 2009. Analysis of the vitreous membrane in a case of type 1 Stickler syndrome. Graefes Arch. Clin. Exp. Ophthalmol. 247: 715-718.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: IPP (human) mapping to 1p34.1.

PRODUCT

IPP 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 IPP shRNA Plasmid (h): sc-78589-SH and IPP shRNA (h) Lentiviral Particles: sc-78589-V as alternate gene silencing products.

For independent verification of IPP (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-78589A, sc-78589B and sc-78589C.

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

IPP siRNA (h) is recommended for the inhibition of IPP 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 IPP gene expression knockdown using RT-PCR Primer: IPP (h)-PR: sc-78589-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.