

INPP1 (h2): 293 Lysate: sc-112783

BACKGROUND

Inositol and phosphatidylinositol phosphates are important for numerous cellular processes, including neuronal survival and signal transductions from growth factors, neurotransmitters and G protein-coupled receptors. INPP1 (inositol polyphosphate 1-phosphatase) is a 399 amino acid protein that is ubiquitously expressed, with highest levels in pancreas and kidney. Belonging to the inositol monophosphatase family, INPP1 is involved in the phosphatidylinositol signaling pathway. INPP1 removes the phosphate group at position one of the inositol ring from the polyphosphates inositol 1,4-bisphosphate and inositol 1,3,4-trisphosphate. It is suggested that overexpressed INPP1 reduces ANP (atrial natriuretic peptide) and MLC2 (myosin light chain 2) responses associated with contraction-induced hypertrophy. Defects of INPP1 may be associated with autism and manic-depressive illness.

REFERENCES

- Okabe, I. and Nussbaum, R.L. 1995. Identification and chromosomal mapping of the mouse inositol polyphosphate 1-phosphatase gene. *Genomics* 30: 358-360.
- Steen, V.M., Løvlie, R., Osher, Y., Belmaker, R.H., Berle, J.O. and Gulbrandsen, A.K. 1998. The polymorphic inositol polyphosphate 1-phosphatase gene as a candidate for pharmacogenetic prediction of lithium-responsive manic-depressive illness. *Pharmacogenetics* 8: 259-268.
- Løvlie, R., Gulbrandsen, A.K., Molven, A. and Steen, V.M. 1999. Genomic structure and sequence analysis of a human inositol polyphosphate 1-phosphatase gene (INPP1). *Pharmacogenetics* 9: 517-528.
- Li, S.R., Gyselman, V.G., Lalude, O., Dorudi, S. and Bustin, S.A. 2000. Transcription of the inositol polyphosphate 1-phosphatase gene (INPP1) is upregulated in human colorectal cancer. *Mol. Carcinog.* 27: 322-329.
- Woodcock, E.A., Wang, B.H., Arthur, J.F., Lennard, A., Matkovich, S.J., Du, X.J., Brown, J.H. and Hannan, R.D. 2002. Inositol polyphosphate 1-phosphatase is a novel antihypertrophic factor. *J. Biol. Chem.* 277: 22734-22742.
- Serretti, A. 2002. Lithium long-term treatment in mood disorders: clinical and genetic predictors. *Pharmacogenomics* 3: 117-129.
- Piccardi, M.P., Arda, R., Chillotti, C., Deleuze, J.F., Mallet, J., Meloni, R., Oi, A., Severino, G., Congiu, D., Bayorek, M. and Del Zompo, M. 2002. Manic-depressive illness: an association study with the inositol polyphosphate 1-phosphatase and serotonin transporter genes. *Psychiatr. Genet.* 12: 23-27.
- Serajee, F.J., Nabi, R., Zhong, H. and Mahbubul Huq, A.H. 2003. Association of INPP1, PIK3CG, and TSC2 gene variants with autistic disorder: implications for phosphatidylinositol signalling in autism. *J. Med. Genet.* 40: e119.
- Michelon, L., Meira-Lima, I., Cordeiro, Q., Miguita, K., Breen, G., Collier, D. and Vallada, H. 2006. Association study of the INPP1, 5HTT, BDNF, AP-2 β and GSK-3 β GENE variants and retrospectively scored response to lithium prophylaxis in bipolar disorder. *Neurosci. Lett.* 403: 288-293.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: INPP1 (human) mapping to 2q32.2.

PRODUCT

INPP1 (h2): 293 Lysate represents a lysate of human INPP1 transfected 293 cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

INPP1 (h2): 293 Lysate is suitable as a Western Blotting positive control for human reactive INPP1 antibodies. Recommended use: 10-20 μ l per lane.

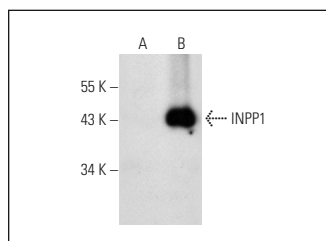
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

INPP1 (F-8): sc-271687 is recommended as a positive control antibody for Western Blot analysis of enhanced human INPP1 expression in INPP1 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



INPP1 (F-8): sc-271687. Western blot analysis of INPP1 expression in non-transfected: sc-110760 (A) and human INPP1 transfected: sc-112783 (B) 293 whole cell lysates.

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.