

NUDT3 (h): 293T Lysate: sc-173128

BACKGROUND

NUDT3 (nudix (nucleoside diphosphate linked moiety X)-type motif 3), also known as DIPP, DIPP1 (diphosphoinositol polyphosphate phosphohydrolase 1) or diadenosine 5',5'''-P₁,P₆-hexaphosphate hydrolase 1, is a 172 amino acid cytoplasmic protein belonging to the nudix hydrolase family and DIPP subfamily. Suggested to play a role in signal transduction, NUDT3 acts as a negative regulator of the ERK 1/2 pathway and hydrolyzes 5-phosphoribose 1-diphosphate. Existing as a monomer and known to bind magnesium as a cofactor, NUDT3 is widely expressed but found at highest levels in liver, pancreas, brain and heart. NUDT3 is inhibited by IP6K1 and fluoride, and is encoded by a gene that maps to human chromosome 6p21.31.

REFERENCES

1. Safrany, S.T., Caffrey, J.J., Yang, X., Bembenek, M.E., Moyer, M.B., Burkhart, W.A. and Shears, S.B. 1998. A novel context for the "MutT" module, a guardian of cell integrity, in a diphosphoinositol polyphosphate phosphohydrolase. *EMBO J.* 17: 6599-6607.
2. Safrany, S.T., Ingram, S.W., Cartwright, J.L., Falck, J.R., McLennan, A.G., Barnes, L.D. and Shears, S.B. 1999. The diadenosine hexaphosphate hydrolases from *Schizosaccharomyces pombe* and *Saccharomyces cerevisiae* are homologues of the human diphosphoinositol polyphosphate phosphohydrolase. Overlapping substrate specificities in a MutT-type protein. *J. Biol. Chem.* 274: 21735-21740.
3. Yang, X., Safrany, S.T. and Shears, S.B. 1999. Site-directed mutagenesis of diphosphoinositol polyphosphate phosphohydrolase, a dual specificity NUDT enzyme that attacks diadenosine polyphosphates and diphosphoinositol polyphosphates. *J. Biol. Chem.* 274: 35434-35440.
4. Fisher, D.I., Safrany, S.T., Strike, P., McLennan, A.G. and Cartwright, J.L. 2002. Nudix hydrolases that degrade dinucleoside and diphosphoinositol polyphosphates also have 5-phosphoribosyl 1-pyrophosphate (PRPP) pyrophosphatase activity that generates the glycolytic activator ribose 1,5-bisphosphate. *J. Biol. Chem.* 277: 47313-47317.
5. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609228. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: NUDT3 (human) mapping to 6p21.31.

PRODUCT

NUDT3 (h): 293T Lysate represents a lysate of human NUDT3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

PROTOCOLS

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

APPLICATIONS

NUDT3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive NUDT3 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.