NUDT5 (m): 293T Lysate: sc-127247



The Power to Question

BACKGROUND

NUDT5 (nudix (nucleoside diphosphate linked moiety X)-type motif 5), whose alternative names include YSA1, YSA1H, hYSAH1, nudix motif 5, ADP-sugar pyrophosphatase or HSPC115, is a 219 amino acid protein belonging to the nudix hydrolase family. NUDT5 hydrolyzes ADP-ribose and ADP-mannose in the presence of magnesium, and also hydrolyzes other nucleotide sugars with low activity such as ADP-glucose and diadenosine diphosphate. As a nudix hydrolase, NUDT5 contains a central nudix motif and functions to eliminate toxic nucleotide metabolites from the cell while maintaining the levels of signaling nucleotides. NUDT5 is widely expressed but is most abundant in liver as a homodimer.

REFERENCES

- Gasmi, L., Cartwright, J.L. and McLennan, A.G. 1999. Cloning, expression and characterization of YSA1H, a human adenosine 5'-diphosphosugar pyrophosphatase possessing a MutT motif. Biochem. J. 344: 331-337.
- 2. McLennan, A.G. 1999. The MutT motif family of nucleotide phosphohydrolases in man and human pathogens (review). Int. J. Mol. Med. 4: 79-89.
- 3. Yang, H., Slupska, M.M., Wei, Y.F., Tai, J.H., Luther, W.M., Xia, Y.R., Shih, D.M., Chiang, J.H., Baikalov, C., Fitz-Gibbon, S., Phan, I.T., Conrad, A. and Miller, J.H. 2000. Cloning and characterization of a new member of the nudix hydrolases from human and mouse. J. Biol. Chem. 275: 8844-8853.
- Ishibashi, T., Hayakawa, H. and Sekiguchi, M. 2003. A novel mechanism for preventing mutations caused by oxidation of guanine nucleotides. EMBO Rep. 4: 479-483.
- Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609230. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- Zha, M., Zhong, C., Peng, Y., Hu, H. and Ding, J. 2006. Crystal structures of human NUDT5 reveal insights into the structural basis of the substrate specificity. J. Mol. Biol. 364: 1021-1033.
- Yu, H.N., Song, E.K., Yoo, S.M., Lee, Y.R., Han, M.K., Yim, C.Y., Kwak, J.Y. and Kim, J.S. 2007. Activation of NUDT5, an ADP-ribose pyrophosphatase, by nitric oxide-mediated ADP-ribosylation. Biochem. Biophys. Res. Commun. 354: 764-768.
- Zha, M., Guo, Q., Zhang, Y., Yu, B., Ou, Y., Zhong, C. and Ding, J. 2008.
 Molecular mechanism of ADP-ribose hydrolysis by human NUDT5 from structural and kinetic studies. J. Mol. Biol. 379: 568-578.

CHROMOSOMAL LOCATION

Genetic locus: Nudt5 (mouse) mapping to 2 A1.

PRODUCT

NUDT5 (m): 293T Lysate represents a lysate of mouse NUDT5 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.

APPLICATIONS

NUDT5 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive NUDT5 antibodies. Recommended use: 10-20 µl per lane.

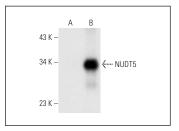
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

NUDT5 (E-4): sc-398644 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse NUDT5 expression in NUDT5 transfected 293T 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-lgG κ BP-HRP: sc-516102 or m-lgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



NUDT5 (E-4): sc-398644. Western blot analysis of NUDT5 expression in non-transfected: sc-117752 (**A**) and mouse NUDT5 transfected: sc-127247 (**B**) 293T 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.