

# NUDT5 (FT-98): sc-134405

## 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., et al. 1999. Cloning, expression and characterization of YSA1H, a human adenosine 5'-diphosphosugar pyro-phosphatase possessing a MutT motif. *Biochem. J.* 344: 331-337.
- McLennan, A.G. 1999. The MutT motif family of nucleotide phosphohydrolases in man and human pathogens (review). *Int. J. Mol. Med.* 4: 79-89.
- Yang, H., et al. 2000. Cloning and characterization of a new member of the nudix hydrolases from human and mouse. *J. Biol. Chem.* 275: 8844-8853.
- Ishibashi, T., et al. 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., et al. 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., et al. 2007. Activation of NUDT5, an ADP-ribose pyrophosphatase, by nitric oxide-mediated ADP-ribosylation. *Biochem. Biophys. Res. Commun.* 354: 764-768.
- Zha, M., et al. 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 (human) mapping to 10p13.

## SOURCE

NUDT5 (FT-98) is a mouse monoclonal antibody raised against recombinant NUDT5 protein of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

NUDT5 (FT-98) is recommended for detection of NUDT5 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NUDT5 siRNA (h): sc-75973, NUDT5 shRNA Plasmid (h): sc-75973-SH and NUDT5 shRNA (h) Lentiviral Particles: sc-75973-V.

Molecular Weight (predicted) of NUDT5: 24 kDa.

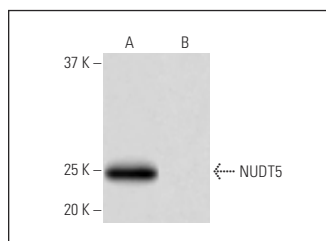
Molecular Weight (observed) of NUDT5: 34 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or human NUDT5 transfected 293T whole cell lysate.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



NUDT5 (FT-98): sc-134405. Western blot analysis of NUDT5 expression in human NUDT5 transfected (A) and non-transfected (B) 293T whole cell lysates.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.