

# NUDT9 (T-14): sc-104477

## BACKGROUND

NUDT9 (nudix (nucleoside diphosphate linked moiety X)-type motif 9), also known as NUDT10, is a 350 amino acid protein belonging to the superfamily of nudix hydrolases. Expressed as two isoforms that are produced as a result of alternative splicing events, NUDT9 isoform 1 localizes to the mitochondria and is the predominant isoform. NUDT9 is known to function as a highly specific adenosine diphosphate ribose pyrophosphatase that hydrolyzes ADP-ribose (ADPR) to AMP and ribose 5'-phosphate. It has been suggested that NUDT9 may be involved in the regulation of the menstrual cycle and may be related to the proliferation of glandular cells in the human endometrium. NUDT9 consist of two distinct domains: a proteolytically resistant C-terminal domain that retains essentially full specific ADPR pyrophosphatase activity, and a proteolytically labile N-terminal portion that functions to enhance the affinity of the C-terminal domain for ADPR.

## REFERENCES

- Perraud, A.L., et al. 2001. ADP-ribose gating of the calcium-permeable LTRPC2 channel revealed by nudix motif homology. *Nature* 411: 595-599.
- Lin, S., et al. 2002. Cloning, expression and characterisation of a human nudix hydrolase specific for adenosine 5'-diphosphoribose (ADP-ribose). *Biochim. Biophys. Acta* 1594: 127-135.
- Perraud, A.L., et al. 2003. TRPM2 Ca<sup>2+</sup> permeable cation channels: from gene to biological function. *Cell Calcium* 33: 519-531.
- Perraud, A.L., et al. 2003. NUDT9, a member of the nudix hydrolase family, is an evolutionarily conserved mitochondrial ADP-ribose pyrophosphatase. *J. Biol. Chem.* 278: 1794-1801.
- Shen, B.W., et al. 2003. The crystal structure and mutational analysis of human NUDT9. *J. Mol. Biol.* 332: 385-398.
- Zhang, H.T., et al. 2003. Interaction of C17orf25 with ADP-ribose pyrophosphatase NUDT9 detected via yeast two-hybrid method. *Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao* 35: 747-751.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: NUDT9 (human) mapping to 4q22.1; Nudt9 (mouse) mapping to 5 E5.

## SOURCE

NUDT9 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NUDT9 of human origin.

## STORAGE

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

## RESEARCH USE

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

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-104477 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NUDT9 (T-14) is recommended for detection of NUDT9 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NUDT9 siRNA (h): sc-89144, NUDT9 siRNA (m): sc-106316, NUDT9 shRNA Plasmid (h): sc-89144-SH, NUDT9 shRNA Plasmid (m): sc-106316-SH, NUDT9 shRNA (h) Lentiviral Particles: sc-89144-V and NUDT9 shRNA (m) Lentiviral Particles: sc-106316-V.

Molecular Weight of NUDT9: 39 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotting A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## PROTOCOLS

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