

NUDT21 (2203C3): sc-81109

BACKGROUND

NUDT21 (nudix (nucleoside diphosphate linked moiety X)-type motif 21), also known as CPSF5 (cleavage and polyadenylation specificity factor subunit 5) or CFIm25 (cleavage and polyadenylation specificity factor 25 kDa subunit), is a member of the Nudix hydrolase family of pyrophosphatases. Nudix hydrolases contain a characteristic NUDIX domain and are responsible for catalyzing the hydrolysis of nucleoside diphosphate derivatives. NUDT21 localizes to the paraspeckles and forms a heterodimer with CPSF6 or CPSF7 to comprise the CFIm (mammalian cleavage factor I) complex. NUDT21 is the smaller subunit of the complex and is present in all heterodimer combinations. CFIm plays an important role in pre-mRNA 3' cleavage and polyadenylation processing.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604978. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Kubo, T., et al. 2006. Knock-down of 25 kDa subunit of cleavage factor Im in HeLa cells alters alternative polyadenylation within 3'-UTRs. *Nucleic Acids Res.* 34: 6264-6271.
3. Forbes, K.P., et al. 2006. An *Arabidopsis* Fip1 homolog interacts with RNA and provides conceptual links with a number of other polyadenylation factor subunits. *J. Biol. Chem.* 281: 176-186.

CHROMOSOMAL LOCATION

Genetic locus: NUDT21 (human) mapping to 16q12.2; Nudt21 (mouse) mapping to 8 C5.

SOURCE

NUDT21 (2203C3) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the N-terminal region of NUDT21 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

APPLICATIONS

NUDT21 (2203C3) is recommended for detection of NUDT21 of mouse, rat and 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 flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for NUDT21 siRNA (h): sc-93336, NUDT21 siRNA (m): sc-77406, NUDT21 shRNA Plasmid (h): sc-93336-SH, NUDT21 shRNA Plasmid (m): sc-77406-SH, NUDT21 shRNA (h) Lentiviral Particles: sc-93336-V and NUDT21 shRNA (m) Lentiviral Particles: sc-77406-V.

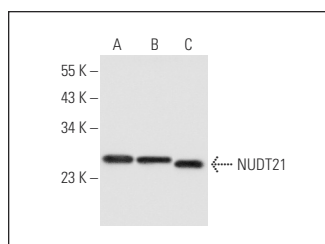
Molecular Weight of NUDT21: 25 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257, Hep G2 cell lysate: sc-2227 or A-431 whole cell lysate: sc-2201.

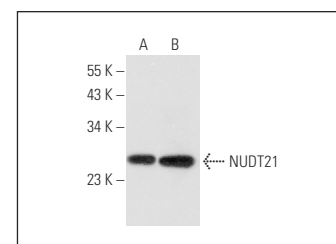
STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

DATA



NUDT21 (2203C3): sc-81109. Western blot analysis of NUDT21 expression in RT-4 (A), U-251-MG (B) and NIH/3T3 (C) whole cell lysates.



NUDT21 (2203C3): sc-81109. Western blot analysis of NUDT21 expression in Hep G2 (A) and A-431 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Martin, G., et al. 2012. Genome-wide analysis of pre-mRNA 3' end processing reveals a decisive role of human cleavage factor I in the regulation of 3' UTR length. *Cell Rep.* 1: 753-763.
2. Masuda, A., et al. 2015. Position-specific binding of FUS to nascent RNA regulates mRNA length. *Genes Dev.* 29: 1045-1057.
3. Park, S.M., et al. 2016. U2AF35(S34F) promotes transformation by directing aberrant ATG7 pre-mRNA 3' end formation. *Mol. Cell* 62: 479-490.
4. Binnothman, N., et al. 2017. CPSF6 is a clinically relevant breast cancer vulnerability target: role of CPSF6 in breast cancer. *EBioMedicine* 21: 65-78.
5. Zhu, Y., et al. 2018. Molecular mechanisms for CFIm-mediated regulation of mRNA alternative polyadenylation. *Mol. Cell* 69: 62-74.e4.
6. Lee, S.H. and Mayr, C. 2019. Gain of additional BIRC3 protein functions through 3'-UTR-mediated protein complex formation. *Mol. Cell* 74: 701-712.e9.
7. Alcott, C.E., et al. 2020. Partial loss of CFIm25 causes learning deficits and aberrant neuronal alternative polyadenylation. *Elife* 9: e50895.
8. Masuda, A., et al. 2020. tRIP-seq reveals repression of premature polyadenylation by co-transcriptional FUS-U1 snRNP assembly. *EMBO Rep.* 21: e49890.
9. Ustyantsev, I.G., et al. 2021. Identification of nucleotide sequences and some proteins involved in polyadenylation of RNA transcribed by Pol III from SINEs. *RNA Biol.* 18: 1475-1488.

RESEARCH USE

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