**CUSABIO TECHNOLOGY LLC** 

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## NUDT5 Recombinant Monoclonal Antibody

Product Code	CSB-RA936419A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	Q9UKK9
Immunogen	A synthesized peptide derived from human NUDT5
Species Reactivity	Human
Tested Applications	ELISA, WB, FC; Recommended dilution: WB:1:500-1:2000, FC:1:50-1:200
Relevance	Enzyme that can either act as an ADP-sugar pyrophosphatase in absence of diphosphate or catalyze the synthesis of ATP in presence of diphosphate (PubMed:27257257). In absence of diphosphate, hydrolyzes with similar activities various modified nucleoside diphosphates such as ADP-ribose, ADP-mannose, ADP-glucose, 8-oxo-GDP and 8-oxo-dGDP (PubMed:10567213, PubMed:10722730, PubMed:19699693, PubMed:21389046, PubMed:17052728). Can also hydrolyze other nucleotide sugars with low activity (PubMed:19699693, PubMed:21389046). In presence of diphosphate, mediates the synthesis of ATP in the nucleus by catalyzing the conversion of ADP-ribose to ATP and ribose 5-phosphate. Nuclear ATP synthesis takes place when dephosphorylated at Thr-45 (PubMed:27257257). Nuclear ATP generation is required for extensive chromatin remodeling events that are energy-consuming (PubMed:27257257). Does not play a role in U8 snoRNA decapping activity (By similarity). Binds U8 snoRNA (By similarity). {ECO:0000269 PubMed:10722730, ECO:0000269 PubMed:17052728, ECO:0000269 PubMed:19699693, ECO:0000269 PubMed:21389046, ECO:0000269 PubMed:27257257}.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
<b>Purification Method</b>	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling; Metabolism; Signal transduction
Gene Names	NUDT5
Clone No.	10D2
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Overlay Peak curve showing HepG2 cells stained with CSB-RA936419A0HU (red line) at 1:100. The cells were fixed in 4% formaldehyde and permeated by 0.2% TritonX-100. Then 10% normal goat serum to block non-specific proteinprotein interactions followed by the antibody (1ug/1\*10<sup>6</sup> cells) for 45min at 4?. The secondary antibody used was FITC-conjugated Goat Antirabbit IgG(H+L) at 1:200 dilution for 35min at 4?.Control antibody (green line) was rabbit IgG  $(1ug/1*10^{\circ}cells)$  used under the same conditions. Acquisition of >10,000 events was performed.

## Description

The creation of the NUDT5 recombinant monoclonal antibody follows a systematic procedure to ensure its quality and specificity. Initially, B cells are isolated from an immunized animal using a synthesized peptide derived from human NUDT5 as the immunogen. Subsequently, total RNA is extracted from the harvested B cells and converted into cDNA through reverse transcription. The NUDT5 antibody genes are then amplified using PCR with primers specific to the antibody constant regions and cloned into an expression vector. This vector is transfected into host cells to enable antibody production. The resulting NUDT5 recombinant monoclonal antibodies are collected from the cell culture supernatant and purified using affinity chromatography. Extensive characterization, including ELISA, WB, and FC analysis, is conducted to validate the antibody's specificity and its ability to recognize human NUDT5 protein.