NUDT5 Protein, Human (His)

Cat. No.:	HY-P76525
Synonyms:	ADP-sugar pyrophosphatase; Nudix motif 5; hNUDT5; YSA1H; NUDIX5
Species:	Human
Source:	E. coli
Accession:	Q9UKK9 (E2-F219)
Gene ID:	11164
Molecular Weight:	30-35 kDa.

PROPERTIES

AA Sequence	E S Q E P T E S S Q N G K Q Y I I S E E L I S E G K W V K L E K T T Y M D P T G K T R T W E S V K R T T R K E Q T A D G V A V I P V L Q R T L H Y E C I V L V K Q F R P P M G G Y C I E F P A G L I D D G E T P E A A A L R E L E E E T G Y K G D I A E C S P A V C M D P G L S N C T I H I V T V T I N G D D A E N A R P K P K P G D G E F V E V I S L P K N D L L Q R L D A L V A E E H L T V D A R V Y S Y A L A L K H A N A K P F E V P F L K F
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4 or 50 mM Tris-HCL, 300 mM NaCl, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	NUDT5, a versatile enzyme, exhibits dual functionality by acting as an ADP-sugar pyrophosphatase in the absence of diphosphate and catalyzing ATP synthesis in the presence of diphosphate. In the absence of diphosphate, NUDT5 demonstrates hydrolytic activity towards various modified nucleoside diphosphates, including ADP-ribose, ADP-mannose, ADP-glucose, 8-oxo-GDP, and 8-oxo-dGDP. Additionally, it can hydrolyze other nucleotide sugars with low activity. When dephosphorylated at Thr-45, NUDT5 facilitates ATP synthesis in the nucleus by converting ADP-ribose to ATP and ribose 5-

phosphate. This nuclear ATP generation is crucial for energy-consuming chromatin remodeling events. Despite its diverse enzymatic activities, NUDT5 does not play a role in U8 snoRNA decapping activity, although it exhibits binding affinity for U8 snoRNA.

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