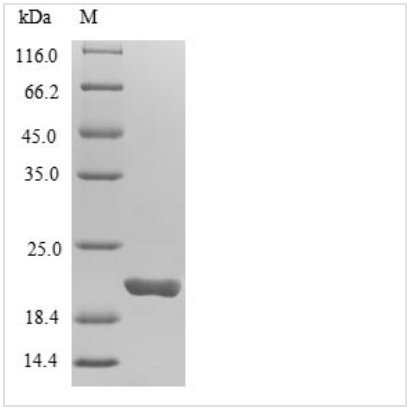
Recombinant Human 7,8-dihydro-8-oxoguanine triphosphatase (NUDT1)

Product Code	CSB-EP016154HU
Relevance	Antimutagenic. Acts as a sanitizing enzyme for oxidized nucleotide pools, thus suppressing cell dysfunction and death induced by oxidative stress. Hydrolyzes 8-oxo-dGTP, 8-oxo-dATP and 2-OH-dATP, thus preventing misincorporation of oxidized purine nucleoside triphosphates into DNA and subsequently preventing A:T to C:G and G:C to T:A transversions. Able to hydrolyze also the corresponding ribonucleotides, 2-OH-ATP, 8-oxo-GTP and 8-oxo-ATP. Does not play a role in U8 snoRNA decapping activity. Binds U8 snoRNA.
Abbreviation	Recombinant Human NUDT1 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P36639
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MSGISPQQMGEPEGSWSGKNPGTMGASRLYTLVLVLQPQRVLLGMKKRGFG AGRWNGFGGKVQEGETIEDGARRELQEESGLTVDALHKVGQIVFEFVGEPEL MDVHVFCTDSIQGTPVESDEMRPCWFQLDQIPFKDMWPDDSYWFPLLLQKK KFHGYFKFQGQDTILDYTLREVDTV
Research Area	Epigenetics and Nuclear Signaling
Source	E.coli
Target Names	NUDT1
Protein Names	2-hydroxy-dATP diphosphatase (EC:3.6.1.56) 8-oxo-dGTPase Nucleoside diphosphate-linked moiety X motif 1 MTH1
Expression Region	19-197aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	Tag-Free
Mol. Weight	20.3 kDa
Protein Length	Full Length of Mature Protein
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

This Human NUDT1 recombinant protein was produced in E.coli, where the gene sequence encoding Human NUDT1 (19-197aa) was expressed with Tag-Free. The purity of this NUDT1 protein was greater than 85% by SDS-PAGE. NUDT1's primary function is to prevent the accumulation of 7,8-dihydro-8-oxoguanine triphosphate (8-oxo-dGTP) in cells. This compound is one of the most common oxidative damages to DNA and can lead to DNA mutations and genomic instability, increasing the risk of cancer and other diseases. NUDT1 hydrolyzes 8-oxo-dGTP, converting it into 8-oxo-dGMP, thereby preventing this oxidative damage from being incorporated into newly synthesized DNA strands. This helps maintain the integrity and stability of DNA. NUDT1 has generated significant interest in cancer research. Some studies have found that the activity of NUDT1 is reduced in certain cancer cells, leading to the accumulation of oxidative damage in DNA, which promotes the development of tumors. Therefore, researchers are investigating whether defects in NUDT1 can be exploited to develop new anti-cancer drugs or treatment approaches.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

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