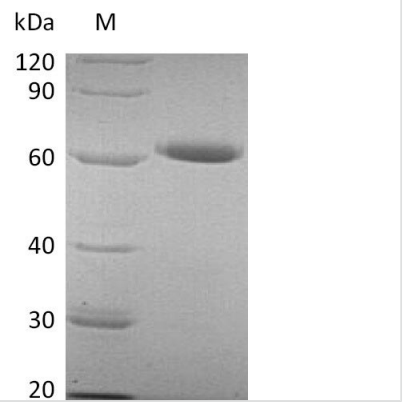
Recombinant Human 5'-nucleotidase (NT5E), partial (Active)

Product Code	CSB-AP005071HU
Abbreviation	Recombinant Human NT5E protein, partial (Active)
Uniprot No.	AAH65937.1
Storage Buffer	0.2 μm Filtered 20 mM Tris-HCl, 120 mM NaCl, 4 mM CaCl2, 20% Glycerol, pH 7.5
Product Type	CD Antigen
Immunogen Species	Homo sapiens (Human)
Sensitivity	Measured by its binding ability in a functional ELISA. Immobilized Human CD73-His at 2μg/ml can bind Anti-Human CD73 mAb, the ED50 of Anti-Human CD73 mAb is 3.33 ng/ml.
Purity	Greater than 95% as determined by SDS-PAGE.
Sequence	WELTILHTNDVHSRLEQTSEDSSKCVNASRCMGGVARLFTKVQQIRRAEPNVLLLDAGDQYQGTIWFTVYKGAEVAHFMNALRYDAMALGNHEFDNGVEGLIEPLLKEAKFPILSANIKAKGPLASQISGLYLPYKVLPVGDEVVGIVGYTSKETPFLSNPGTNLVFEDEITALQPEVDKLKTLNVNKIIALGHSGFEMDKLIAQKVRGVDVVVGGHSNTFLYTGNPPSKEVPAGKYPFIVTSDDGRKVPVVQAYAFGKYLGYLKIEFDERGNVISSHGNPILLNSSIPEDPSIKADINKWRIKLDNYSTQELGKTIVYLDGSSQSCRFRECNMGNLICDAMINNNLRHADETFWNHVSMCILNGGGIRSPIDERNNGTITWENLAAVLPFGGTFDLVQLKGSTLKKAFEHSVHRYGQSTGEFLQVGGIHVVYDLSRKPGDRVVKLDVLCTKCRVPSYDPLKMDEVYKVILPNFLANGGDGFQMIKDELLRHDSGDQDINVVSTYISKMKVIYPAVEGRIK
Research Area	Cardiovascular
Source	Mammalian cell
Target Names	NT5E
Expression Region	27-547aa
Tag Info	C-terminal 6xHis-tagged
Mol. Weight	58.76 kDa
Protein Length	Partial
Image	



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

Description

Recombinant Human 5'-nucleotidase (NT5E) comes from a mammalian cell system, which appears to help with proper folding and post-translational modifications. This product represents a partial protein covering the 27-547 amino acid region and includes a C-terminal 6xHis-tag that makes purification and detection more straightforward. The purity reaches greater than 95% based on SDS-PAGE analysis, while endotoxin levels stay below 1.0 EU/μg according to LAL method measurements. Functional ELISA testing confirms the protein's biological activity, showing binding capability with an ED50 of 3.33 ng/ml.

5'-nucleotidase, commonly called CD73, serves as a key enzyme in purine metabolism. It drives the dephosphorylation of nucleotide monophosphates to nucleosides and plays a major role in adenosine generation. This protein acts as an essential component across multiple pathways, particularly those connected to immune response, inflammation, and vascular function. Its central position in adenosine signaling has made it an attractive research target in immunology and oncology fields.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Antibody Development and Characterization

This recombinant human NT5E/CD73 protein works well as an immunogen or screening antigen when developing monoclonal or polyclonal antibodies against human CD73. The binding activity demonstrated with anti-human CD73 monoclonal antibodies in functional ELISA suggests the protein keeps proper epitope presentation intact. That C-terminal His-tag allows for straightforward purification and immobilization during antibody screening assays. High purity levels (>95%) combined with low endotoxin content make it appropriate for immunization protocols in research animals.

2. Functional ELISA Development and Optimization

Given its validated binding activity in functional ELISA, the protein makes an excellent positive control and standard for CD73-specific immunoassay development. The established ED50 value of 3.33 ng/ml for anti-human CD73 mAb binding offers a quantitative benchmark during assay validation. Scientists can rely on this protein to fine-tune coating concentrations, blocking conditions, and antibody dilutions in ELISA-based detection systems. The consistent mammalian expression system likely ensures reproducible glycosylation patterns that matter for human CD73 research.

3. Protein-Protein Interaction Studies

Scientists may find this recombinant NT5E protein useful in pull-down assays and binding studies when investigating CD73 interactions with other proteins or potential ligands. The C-terminal His-tag makes immobilization on nickel-based resins or surfaces relatively simple for capturing interacting partners from cell lysates or purified protein preparations. The preserved biological activity suggests proper protein folding has occurred, which could make it suitable for studying physiologically relevant binding interactions. Such studies might help clarify CD73's role across various cellular pathways and potentially identify novel binding partners.

4. Biochemical Assay Development

This biologically active recombinant protein offers a valuable tool for developing and validating biochemical assays that target human CD73. Scientists can apply it as a positive control in competitive binding assays or as a reference standard when quantifying CD73 levels in biological samples. The protein's demonstrated activity and high purity appear to make it suitable for establishing baseline measurements across various biochemical screening platforms. That mammalian expression system likely ensures post-translational modifications that may be critical for proper protein function and assay performance.

5. Structural and Biophysical Studies

The high-purity recombinant NT5E protein provides appropriate material for biophysical characterization studies. These might include circular dichroism spectroscopy, dynamic light scattering, and thermal stability analyses. The partial protein construct (27-547aa) represents the extracellular domain, which makes it fitting for solution-based structural studies without membrane complications getting in the way. Scientists can examine protein stability under different buffer conditions, pH ranges, and temperatures to optimize storage and experimental conditions. The His-tag works well for protein immobilization in surface plasmon resonance studies when analyzing binding kinetics with antibodies or other ligands.

Typical	Less than 1.0 EU/μg as determined by LAL method.
Shelf Life	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.