



Daresbury Proteins

Product description

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Name: Recombinant Human Ecto-5'-nucleotidase, 5'-NT or CD73

Synonyms: 5'-Nucleotidase (5'-NT), Cluster of Differentiation 73 (CD73).

Species: Human

Source: HEK293

Amino Acids: 27-549

Tag: 6xHis at the C terminus.

Predicted Molecular Weight: 58.8 kDa

Protein ID: P21589

Sequence:

WELTILHTNDVHSRLEQTSSESSKCVNASRCMGGVARLEFTKVQQIRRAEPNVLLLDAGDQYQGTIWFTVYKGAEVAHFVNALR
 YDAMALGNHEFDNGVEGLIEPLLKEAKFPILSANIKAKGPLASQISGLYLPYKVLVPGDEVVGIIVGYTSKETPFLSNPGTNLV
 FEDEITALQPEVDKLLKTLNVNKKI IALGHSGFEMDKLIAQKVRGVDVVVGGHSNTFLYTGNNPPSKEVPAGKYPFIVTSDDGKRV
 PVVQAYAFGKYLGYLKIEFDERGNVISSHGNIPLLNSSIPEDPSIKADINKWRIKLDNYSTQELGKTIVYLDGSSQSCRFREC
 NMGNLICDAMINNNLRHTDEMFWNHVSMCILNGGGIRSPIDERNNGTITWENLAAVLPFGGTFDLVQLKGSTLKKAFEHSVHR
 YGQSTGEFLQVGGIHVVYDLSRKPGDRVVKLDVLCCTKCRVPSYDPLKMDEVYKVI LPNFLANGGDGFQMIKDELLRHDSGDQD
 INVVSTYISKMKVIYPAVEGRIKFSHHHHHH

Product specifications

Estimated Molecular Weight, SDS-PAGE: ≈65 kDa

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Grade & Purity: >95% as estimated by SDS-PAGE stained with Instant Blue Stain (Expedeon).

Endotoxins: Less than 0.1 ng/ μ g (1 IEU/ μ g), as measured by LAL method.

Formulation: PBS 20% Glycerol

Shipping

Product is shipped either on dry or wet ice. Upon receipt, store at -20°C to -70°C.

Product application and Storage

Storage: The protein should be stored at -20°C to -70°C preferably in small aliquots to avoid repeated freeze-thaw cycles.

Stability: At least 12 months at -20°C to -70°C and at least 1 month at 2°C to 8°C.

Application Note: For research purposes only. Not for use in humans.

Background Information

This protein is a dimeric enzyme that is expressed on the exterior face of the plasma membrane (1, 2). CD73 acts by hydrolysing nucleotide monophosphates, thereby releasing inorganic phosphate and the corresponding nucleoside. Exhibits AMP-, NAD-, and NMN-nucleosidase activities (3). CD73, originally defined as a lymphocyte differentiation antigen, is thought to function as a co-signalling molecule on T lymphocytes and as an adhesion molecule that is important for lymphocyte binding to endothelium (4). CD73 is involved in the control of a variety of physiological responses including epithelial ion and fluid transport, ischemic preconditioning, tissue injury, platelet function, hypoxia and vascular leak (5).

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CD 73 is a potential target in immuno-oncology (6, 7).

Publications: This product has been used in the following publication:

Heuts DPHM., Weissenborn MJ., Olkhov RV., Shaw AM., Gummadova JO., Levy C. and NS. Scrutton. *Crystal Structure of a Soluble Form of Human CD73 with Ecto-5'-Nucleotidase Activity*. ChemBioChem. Vol. 13, No 16, pp 2384-2391. 2012.

References:

1. Misumi et al. (1990) *Eur. J. Biochem.*, 563-569
2. Ogata et al. (1990) *Biochemistry*, 7923-7927
3. Zimmermann. (1992) *Biochem. J.*, 345-365
4. Airas et al. (1997) *J. Cell Biol.*, 421-431
5. Colgan et al. (2006) *Purinergic Signal*, 351-360
6. Allard et al. (2016) *Immunotherapy*, 145-163
7. Zhang. (2010) *Cancer Res.*, 6407-6411