Data Sheet (Cat.No.TMPY-01851)

TargetMol

CD73/5'-Nucleotidase Protein, Human, Recombinant (His)

General Information

Synonyms:	eN;NT5;E5NT;NT;5'-nucleotidase, ecto (CD73);NTE;CALJA;eNT;CD73
Protein Construction:	A DNA sequence encoding the human NT5E (NP_002517.1) (Met1-Lys547) was expressed fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Trp 27
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P21589-1
Molecular Weight:	59.2 kDa (predicted)

QC Testing

Biological Activity:	1. Using the Octet RED System, the affinity constant (Kd) of CD73 Protein, Human, Recombinant (His Tag) bound MEDI9447 was 0.3 nM. 2. Measured by its ability to hydrolyze the 5'phosphate group from the substrate adenosine 5' monophosphate (AMP). The specific activity is > 15,000 pmoles/min/μg.
Purity:	> 85 % as determined by SDS-PAGE. > 95 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing Tris, NaCl and CaCl2, pH 7.5, with Glycerol as protectants or Lyophilized from 0.22μm filtered solution in 20mM Tris, 120mM NaCl (pH 7.5). Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

5'-nucleotidase, also known as NT5E, NTE, and CD73, is a cell membrane protein that belongs to the 5'-nucleotidase family. CD73 is a glycosylphosphatidylinositol (GPI) anchored purine salvage enzyme expressed on the surface of human T and B lymphocytes. CD73 catalyzes the conversion of purine and pyrimidine ribo- and deoxyribonucleoside monophosphates to the corresponding nucleosides. CD73 serves as a costimulatory molecule in activating T cells. CD73 generated adenosine functions in cell signaling in many physiologic systems, including intestinal epithelium, ischemic myocardium, and cholinergic synapses. CD73 might mediate lymphocyte-stromal cell interactions or condition the local microenvironment to facilitate lymphocyte development and/or function. In CD73-depleted cells, surface levels of the leukocyte adhesion molecules ICAM-1, VCAM-1, and E-selectin increase. CD73 produces extracellular adenosine, which then acts on G protein-coupled purinergic receptors to induce cellular responses. CD73 has also been reported to regulate the expression of pro-inflammatory molecules in mouse endothelium.

Reference

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Yamashita Y. et al., 1998, Eur J Immunol. 28 (10): 2981-90.
Louis NA. et al., 2008, J Immunol. 180 (6): 4246-55.
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