Data Sheet (Cat.No.TMPY-03540)

TargetMol

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

General Information

Synonyms: 5'-nucleotidase, ecto (CD73)

Protein Construction: A DNA sequence encoding the rat NT5E(Q66HL0) (Met1-Lys549) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Trp 29

Species: Rat

Expression Host: HEK293 Cells

Accession: Q66HL0

Molecular Weight: 59.4 kDa (predicted); 59 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity: Measured by its ability to hydrolyze the 5′-phosphate group from the substrate adenosine-5′-monophosphate (AMP). The orthophosphate product is measured by a Malachite Green Phosphate Detection Kit . The specific activity is >15,000 pmol/min/μg.

Purity: > 90 % as determined by SDS-PAGE

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. 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.
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