Data Sheet (Cat.No.TMPY-02975)

TargetMol

CANT1 Protein, Human, Recombinant (hFc)

General Information

Synonyms:	SCAN1;DBQD;SCAN-1;SHAPY;calcium activated nucleotidase 1
Protein Construction:	A DNA sequence encoding the human CANT1 (Q8WVQ1-1) (Gly80-Ile401) was expressed,with the fused Fc region of human IgG1 at the N-terminus. Predicted N terminal: Glu
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q8WVQ1-1
Molecular Weight:	64.3 kDa (predicted); 65 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
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 PBS, pH 7.4. 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:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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

CANT1(calcium activated nucleotidase 1) belongs to the apyrase family. Apyrase is a calcium-activated plasma membrane-bound enzyme (magnesium can also activate it) (EC 3.6.1.5) that catalyses the hydrolysis of ATP to yield AMP and inorganic phosphate. Two isoenzymes are found in commercial preparations from S. tuberosum. One with a higher ratio of substrate selectivity for ATP: ADP and another with no selectivity. It can also act on ADP and other nucleoside triphosphates and diphosphates with the general reaction being NTP -> NDP + Pi -> NMP +

2Pi. The salivary apyrases of blood-feeding arthropods are nucleotide hydrolysing enzymes are implicated in the inhibition of host platelet aggregation through the hydrolysis of extracellular adenosine diphosphate. CANT1 functions as a calcium-dependent nucleotidase with a preference for UDP. Defects in CANT1 are the cause of desbuquois dysplasia.

Reference

Failer BU, et al. (2002) Cloning, expression, and functional characterization of a Ca(2+)-dependent endoplasmic reticulum nucleoside diphosphatase. J Biol Chem. 277(40):36978-86.
Smith TM, et al. (2002) Cloning, expression, and characterization of a soluble calcium-activated nucleotidase, a human enzyme belonging to a new family of extracellular nucleotidases. Arch Biochem Biophys. 406(1):105-15.
Strausberg RL, et al. (2003) Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. Proc Natl Acad Sci. 99(26):16899-903.

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