

ADAM17 Protein, Rat, Recombinant (His)

General Information

Synonyms:	ADAM metallopeptidase domain 17
Protein Construction:	A DNA sequence encoding the rat ADAM17 (Q9Z1K9) (Met1-Asp563) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Pro 18
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	Q9Z1K9
Molecular Weight:	63 kDa (predicted); 57 and 20 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its ability to cleave a fluorogenic peptide substrate Mca-PLAQAV-Dpa-RSSSR-NH ₂ . The specific activity is >250 pmol/min/μg.
Purity:	> 95 % 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

ADAM17 is a member of the ADAM protein family of disintegrins and metalloproteases. ADAM17 is ubiquitously expressed in the human colon, with increased activity in the colonic mucosa of patients with ulcerative colitis, a main form of inflammatory bowel disease. The expression of ADAM17 may be inhibited by ethanol. It is involved in the processing of tumor necrosis factor alpha (TNF-α) at the surface of the cell, and from within the intracellular membranes of the trans-Golgi network. ADAM17 also plays a role in the release of a diverse variety

of membrane-anchored cytokines, cell adhesion molecules, receptors, ligands, and enzymes. ADAM17 may play a prominent role in the Notch signaling pathway, during the proteolytic release of the Notch intracellular domain (from the Notch1 receptor) that occurs following ligand binding.

Reference

Poghosyan. et al., 2002, J Biol Chem. 277 (7): 4999-5007.

Li Y. et al., 2006, Blood. 108 (7): 2275-9.

Peiretti. et al., 2003, J Cell Sci. 116 (10): 1949-57.

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