Data Sheet (Cat.No.TMPY-00499)

TargetMol

TMP21 Protein, Human, Recombinant (mFc)

General Information

Synonyms:	Tmp-21-I;p23;S31III125;TMP21;P24(DELTA);transmembrane emp24-like trafficking protein 10 (yeast);P24(δ);S31I125
Protein Construction:	A DNA sequence encoding the human TMED10 (NP_006818.3) (Met1-Arg185) was expressed with the Fc region of mouse IgG1 at the C-terminus. Predicted N terminal: Ile 32
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P49755
Molecular Weight:	44 kDa (predicted)

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:	> 85 % 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

TMED10 disrupts the complex formation between TGF-beta type I (also termed ALK5) and type II receptors (TbetaRII). Misexpression studies revealed that TMED10 attenuated TGF-beta-mediated signaling. A 20-amino acid-long region from Thr(91) to Glu(110) within the extracellular region of TMED10 was found to be crucial for TMED10 interaction with both ALK5 and TbetaRII. Synthetic peptides corresponding to this region inhibit both TGF-

beta-induced Smad2 phosphorylation and Smad-dependent transcriptional reporter activity. In a xenograft cancer model, where previously TGF-beta was shown to elicit tumor-promoting effects, gain-of-function and loss-of-function studies for TMED10 revealed a decrease and increase in the tumor size, respectively. That TMED10 expression levels are the key determinant for efficiency of TGF-beta receptor complex formation and signaling.

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