Data Sheet (Cat.No.TMPY-03315)

TargetMol

ALK-1 Protein, Cynomolgus, Recombinant (hFc)

General Information

Synonyms:	ACVRL1;activin A receptor type II-like 1
Protein Construction:	A DNA sequence encoding the cynomolgus ACVRL1 (Met1-Gln118) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Asp 22
Species:	Cynomolgus
Expression Host:	HEK293 Cells
Molecular Weight:	37.8 kDa (predicted); 53 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to inhibit BMP9-induced alkaline phosphatase production by MC3T3-E1 cells. The ED50 for this effect is typically 1-5 ng/ml.
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

Activin A receptor, type II-like 1 (ACVRL1), also known as ALK-1 (activin receptor-like kinase 1), is an endothelial-specific type I receptor of the TGF-beta (transforming growth factor beta) receptor family of ligands. On ligand binding, a heteromeric receptor complex forms consisting of two type II and two type I transmembrane serine/threonine kinases. ACVRL1 protein is expressed in certain blood vessels of kidney, spleen, heart and intestine, serving as an important role during vascular development. Mutations in ACVRL1 gene are associated with hemorrhagic telangiectasia type 2, also known as Rendu-Osler-Weber syndrome 2 and vascular disease.

Reference

French Rendu-Osler network, et al. (2004) Molecular screening of ALK1/ACVRL1 and ENG genes in hereditary hemorrhagic telangiectasia in France. Hum Mutat. 23(4): 289-299.
Simon M, et al. (2006) Association of a polymorphism of the ACVRL1 gene with sporadic arteriovenous malformations of the central nervous system. J Neurosurg. 104(6): 945-9.
Argyriou L, et al. (2006) Novel mutations in the ENG and ACVRL1 genes causing hereditary hemorrhagic teleangiectasia. Int J Mol Med. 17(4):655-9.

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