

## ALK-1 Protein, Cynomolgus, Recombinant (His)

### General Information

Synonyms:	activin A receptor type II-like 1;ACVRL1
Protein Construction:	Asp22-Gln118
Species:	Cynomolgus
Expression Host:	HEK293 Cells
Accession:	XP_005570958.1
Molecular Weight:	11.86 kDa (predicted); 25-35 kDa (reducing condition due to glycosylation)

### QC Testing

Biological Activity:	Immobilized Human GDF-2, No Tag at 0.5 µg/ml (100 µl/well) on the plate. Dose response curve for Cynomolgus ALK-1, His Tag with the EC50 of 13.6 ng/ml determined by ELISA (QC Test).
Purity:	> 95% as determined by Bis-Tris PAGE; > 95% as determined by HPLC
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from 0.22 µm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 µg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### 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 telangiectasia. *Int J Mol Med.* 17(4):655-9.

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