Data Sheet (Cat.No.TMPY-04044)

TargetMol

ACVR2B Protein, Cynomolgus, Recombinant

General Information

Synonyms:	activin A receptor, type IIB
Protein Construction:	A DNA sequence encoding the cynomolgus ACVR2B (EHH16502.1) (Ser28-Thr143) was expressed with six amino acids (LEVLFQ) at the C-terminus. Predicted N terminal: Ser 28
Species:	Cynomolgus
Expression Host:	HEK293 Cells
Accession:	G7MJ10
Molecular Weight:	14.1 kDa (predicted); 34 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to neutralize Activin-mediated inhibition on MPC11 cell proliferation. The ED50 for this effect is typically 0.2-0.6 μg/mL in the presence of 10 ng/mL recombinant Activin A.
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

ACVR2A and ACVR2B are two activin type II receptors. ACVR2B is integral to the activin and myostatin signaling pathway. Ligands such as activin and myostatin bind to ACVR2A and ACVR2B. Myostatin, a negative regulator of skeletal muscle growth, is regarded as a potential therapeutic target and binds to ACVR2B effectively, and to a lesser extent, to ACVR2A. The structure of human ACVR2B kinase domain in complex with adenine establishes the

conserved bilobal architecture consistent with all other catalytic kinase domains. Haplotype structure at the ACVR2B and follistatin loci may contribute to interindividual variation in skeletal muscle mass and strength. Defects in ACVR2B are a cause of left-right axis malformations.

Reference

Kosaki R,et al.(1999) Left-right axis malformations associated with mutations in ACVR2B, the gene for human activin receptor type IIB. Am J Med Genet. 82(1):70-6.

Dupont S,et al.(2001) No evidence for linkage or for diabetes-associated mutations in the activin type 2B receptor gene (ACVR2B) in French patients with mature-onset diabetes of the young or type 2 diabetes. Diabetes 50(5): 1219-21.

Albertson RC,et al.(2005) Zebrafish acvr2a and acvr2b exhibit distinct roles in craniofacial development. Developmental dynamics 233(4): 1405-18.

Walsh S,et al.(2007) Activin-type II receptor B (ACVR2B) and follistatin haplotype associations with muscle mass and strength in humans. J Appl Physiol. 102(6):2142-8.

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