

ACVR2A Protein, Human, Recombinant (hFc)

General Information

Synonyms:	ACVR2;ACTRII;activin A receptor, type IIA
Protein Construction:	Ala20-Pro135
Species:	Human,Cynomolgus
Expression Host:	HEK293 Cells
Accession:	P27037-1(Human)/G7PKJ4(Cynomolgus)
Molecular Weight:	39.35 kDa (Predicted); 55-65 kDa (Reducing conditions due to glycosylation)

QC Testing

Biological Activity:	Immobilized Human Activin A, No Tag at 1 µg/ml (100 µl/well) on the plate. Dose response curve for Human/Cynomolgus Activin RIIA, hFc Tag with the EC50 of 1.6ng/ml determined by ELISA (QC Test). Immobilized Human/Mouse/Rat GDF-8, No Tag at 2 µg/ml (100 µl/well) on the plate. Dose response curve for Human/Cynomolgus Activin RIIA, hFc Tag with the EC50 of 56.9ng/ml determined by ELISA. Human Activin RIIA, hFc Tag captured on CM5 Chip via Protein A can bind Human/Mouse/Rat GDF-8, No Tag with an affinity constant of 0.13 nM as determined in SPR assay (Biacore T200).
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 2A (ACVR2A) is a membrane receptor in the transforming growth factor- beta (TGF- β) signaling pathway, which is involved in the regulation of cell proliferation, migration, and apoptosis. Loss of ACVR2A has an important role in cancer progression and distant metastasis and may serve as a prognostic marker in patients with colon cancer.

Reference

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

Chung H, et al. (2008) Mutation rates of TGFBR2 and ACVR2 coding microsatellites in human cells with defective DNA mismatch repair. *PloS one* 3(10): e3463.

Fitzpatrick E, et al. (2009) Genetic association of the activin A receptor gene (ACVR2A) and pre-eclampsia. *Molecular human reproduction* 15(3):195-204.

Roten LT, et al. (2009) Association between the candidate susceptibility gene ACVR2A on chromosome 2q22 and pre-eclampsia in a large Norwegian population-based study (the HUNT study). *EJHG*. 17(2): 250-7.

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