

## ACVR2A Protein, Mouse, Recombinant (His & hFc)

### General Information

Synonyms:	Acvr2; activin A receptor, type IIA; ActrIIa; TactrII
Protein Construction:	A DNA sequence encoding the extracellular domain of mouse ACVR2A (NP_031422.3) (Met 1-Pro 134) was fused with the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus. Predicted N terminal: Ala 20
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	A2AI38
Molecular Weight:	41.4 kDa (predicted); 55-65 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Measured by its ability to neutralize Activin-mediated inhibition on MPC11 cell proliferation. The ED50 for this effect is typically 20-60 ng/mL in the presence of 10 ng/mL recombinant Activin A.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m 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. ACVR2A has been shown to interact with INHBA, SYNJ2BP and ACVR1B. The bovine ACVR2A gene encodes a protein of 513 amino acids which is highly homologous (approximately 98% identity) to the rat, mouse, and human ACVR2A proteins. Inactivation of ACVR2A is a common

event in prostate cancer cells suggesting it may play an important role in the development of prostate cancer. The ACVR2A gene is a putative tumor suppressor gene that is frequently mutated in microsatellite-unstable colon cancers (MSI-H colon cancers). Frameshift mutation of ACVR2A may contribute to MSI-H colon tumorigenesis via disruption of alternate TGF-beta effector pathways.

### 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.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481