

Activin A Protein, Mouse, Recombinant (His)

General Information

Synonyms:	inhibin, β A; inhibin, beta A
Protein Construction:	A DNA sequence encoding the pro form of mouse INHBA (NP_032406.1) (Met 1-Ser 424) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Ser 21
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q04998
Molecular Weight:	46.5 kDa (predicted); 18 & 43 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	<ol style="list-style-type: none">1. Immobilized human ACVR2B at 10 $\mu\text{g}/\text{mL}$ (100 $\mu\text{l}/\text{well}$) can bind biotinylated mouse INHBA-His, The EC₅₀ of biotinylated mouse INHBA-His is 0.161 $\mu\text{g}/\text{mL}$.2. Immobilized mouse INHBA-his at 10 $\mu\text{g}/\text{mL}$ (100 $\mu\text{l}/\text{well}$) can bind human Follistatin Protein, The EC₅₀ of human Follistatin Protein is 0.39 $\mu\text{g}/\text{mL}$.3. Measured by its ability to inhibit proliferation of MPC-11 cells. The ED₅₀ for this effect is typically 0.8-4 $\mu\text{g}/\text{mL}$.
Purity:	> 88 % 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 and inhibin are two closely related protein complexes that have almost directly opposite biological effects. The activin and inhibin protein complexes are both dimeric in structure, and, in each complex, the two monomers are linked to one another by a single disulfide bond. Activin is composed of two β subunits, $\beta A \beta A$ (activin A), $\beta B \beta B$ (activin B), or $\beta A \beta B$ (activin AB). Inhibin is composed of an alpha and one of two β subunits, βA (inhibin A) or βB (inhibin B). Activins are produced in many cell types and organs, such as gonads, pituitary gland, and placenta. In the ovarian follicle, activin increases FSH binding and FSH-induced aromatization. It participates in androgen synthesis enhancing LH action in the ovary and testis. In the male, activin enhances spermatogenesis. Also, Activin plays a role in wound repair and skin morphogenesis. Activin is strongly expressed in wounded skin, and overexpression of activin in the epidermis of transgenic mice improves wound healing and enhances scar formation. Activin also regulates the morphogenesis of branching organs such as the prostate, lung, and kidney. There is also evidence showed that lack of activin during development results in neural developmental defects.

Reference

Tanimoto K, et al. (1992) Structure and sequence analysis of the human activin beta A subunit gene. DNA Seq. 2 (2): 103-10.

Welt C, et al. (2002) Activins, inhibins, and follistatins: from endocrinology to signaling. A paradigm for the new millennium. Exp Biol Med. 227 (9): 724-52.

Xu J, et al. (1995) Inhibin antagonizes inhibition of liver cell growth by activin by a dominant-negative mechanism. J Biol Chem. 270 (11): 6308-13.

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