

INHBB Protein, Human, Recombinant (His)

General Information

Synonyms:	inhibin beta B;INHBB;Inhibin β B Protein;MGC157939;inhibin β B
Protein Construction:	A DNA sequence encoding the pro form of human INHBB (NP_002184.2) (Met 1-Ala 407) was expressed, fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Ser 29
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P09529
Molecular Weight:	43.7 kDa (predicted); 17, 42 and 55 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized human INHBB-His at 10 μ g/ml (100 μ l/well) can bind biotinylated mouse FLRG-His with a linear range of 0.031-0.125 μ g/ml.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ 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

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, β A β A (activin A), β B β B (activin B), or β A β B (activin AB). Inhibin is composed of an alpha and one of two β subunits, β A (inhibin A) or

BB (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

Feng ZM, et al. (1989) Characterization and regulation of testicular inhibin beta-subunit mRNA. *Mol Endocrinol.* 3 (6): 939-48.

Bernard DJ, et al. (2002) Inhibin binding protein (InhBP/p120), betaglycan, and the continuing search for the inhibin receptor. *Mol Endocrinol.* 16 (2): 207-12.

Lejeune H, et al. (1997) Stimulating effect of both human recombinant inhibin A and activin A on immature porcine Leydig cell functions in vitro. *Endocrinology.* 138 (11): 4783-91.

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