

Active Recombinant Human INHBA&INHBB, His-tagged, Animal Free

Cat. No. INHBA&INHBB-146H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Activin AB is a disulphide linked heterodimer of subunits βA / βB . βA Single chain, containing 116 aa (13.7 kDa) and βB single chain, 123 amino residues (14kDa). Recombinant human Activin AB contains a His-tag at the N-terminal end. Human recombinant protein expressed in *Nicotiana benthamiana*. It is produced by transient expression in non-transgenic plants and is purified by sequential chromatography (FPLC). This product contains no animal-derived components or impurities. Animal Free product.

Species

Human

Source

Nicotiana Benthamiana

Description

Activins are homodimers or heterodimers of the various β subunit isoforms, belonging to the TGF β family. Mature Activin AB has two chains of 116 and 123 amino acids residues (βA - βB). Activin exhibits a wide range of biological activities, including mesoderm induction, neural cell differentiation, bone remodelling, haematopoiesis, and reproductive physiology. Activins plays a key role in the production and regulation of hormones such as FSH, LH, GnRH and ACTH. Inhibins /Activins are proteins that are formed by the dimerization of two subunits, i. e. an α with either βA –inhibin A- or βB - inhibin B. The subunits βA and βB can also form homodimers or heterodimers called activins: Activin A ($\beta A\beta A$), Activin B ($\beta B\beta B$) and Activin AB ($\beta A\beta B$). The activin gene family comprises the additional, but poorly characterized members activin βC , βD , and βE . - As with other members of the super-family, Activins interact

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with two types of cell surface trans-membrane receptors (Types I and II) which have intrinsic serine/threonine kinase activities in their cytoplasmic domains, Activin type 1 receptors, ACVR1, ACVR1B, ACVR1C and Activin type 2 receptors, ACVR2A, ACVR2B. - The development of assays distinguishing between different forms of activins and inhibins, along with knock-in and knock-out models, have provided evidence that the betaA- and betaB-subunits have independent and separate roles physiologically. Additionally, evaluation of ligand-receptor interactions indicates significant differences in receptor affinity between activin isoforms, as well as between inhibin isoforms.

Form Lyophilized from a Tris HCl 0.05M buffer pH 7.4.

Bio-activity The biological activity of Activin AB is measured by its ability to inhibit mouse plasmacytoma cell line (MPC-11) cells proliferation. EC50<5ng l="" are="" required="" to="" stimulate="" a="" half-maximal="" response="" at="" cytokine="" saturation.="" note="" since="" applications="" vary,="" each="" investigator="" should="" titrate="" the="" reagent="" to="" obtain="" optimal="">

Molecular Mass Activin AB is a disulphide linked heterodimer of subunits β A / β B . β A Single chain, containing 116 aa (13.7 kDa) and β B single chain, 123 amino residues (14kDa). Recombinant human Activin AB contains a His-tag at the N-terminal end.

AA Sequence β A:GLECDGKVNICKKQFFVSFKDIGWNDWIIAPSGYHANYCEGECPSHIAGTSGS
SLSFHSTVINHYRMRGHSPFANLKSCCVPTKLRPMSMLYDDGQNIKKDIQNMIVEE
CGCS β B:GLECDGRTNLCCRQQFFIDFRLIGWNDWIIAPTGYGNYCEGSCPAYLA
GVPGSASSFHTAVVNQYRMRGLNPGTVNSCCIPTKLSTMSMLYFDDEYNIVKRDVP
NMIVEECG

Endotoxin < 0.04="" eu="" ug="" protein="" (lal="">

Purity	>97% by SDS-PAGE gel
Applications	Cell culture, Western Blot
Storage	This lyophilized preparation is stable at 2-8o C for short term, long storage it should be kept at -20oC. Reconstituted protein should be stored in working aliquots at –20°C. Repeated freezing and thawing is not recommended.
Reconstitution	Lyophilized protein should be reconstituted in water to a concentration of 50 ng/μl. Optimal concentration should be determined for specific application and cell lines. Optimal reconstitution please follow batch Quality Control sheet instructions.

GENE INFORMATION

Gene Name	INHBA inhibin, beta A [Homo sapiens]
Official Symbol	INHBA
Synonyms	INHBA; inhibin, beta A; inhibin, beta A (activin A, activin AB alpha polypeptide); inhibin beta A chain; Inhibin, beta-1; activin beta-A chain; FSH-releasing protein; erythroid differentiation factor; erythroid differentiation protein; follicle-stimulating hormone-releasing protein; EDF; FRP;
Gene ID	3624
mRNA Refseq	NM_002192
Protein Refseq	NP_002183
MIM	147290

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UniProt ID	P08476
Chromosome Location	7p15-p13
Pathway	ALK1 signaling events, organism-specific biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Glycoprotein hormones, organism-specific biosystem; Metabolism, organism-specific biosystem; Metabolism of amino acids and derivatives, organism-specific biosystem; Peptide hormone biosynthesis, organism-specific biosystem;
Function	cytokine activity; follistatin binding; growth factor activity; hormone activity; identical protein binding; protein binding; protein heterodimerization activity; type II activin receptor binding;

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