Activin B, active, human recombinant, expressed in Nicotiana benthamiana, His Tag, animal free

Catalog No:	99864
Lot No:	
Source:	Nicotiana benthamiana
Molecular formula:	$C_{615}H_{910}N_{178}O_{177}S_{12}$
Extinction coefficient:	E 0.1% (=1g/l) = 1.56 (A 280 nm)
Molecular weight:	recombinant human Activin B is a polypeptide chain containing 123 amino acids (293-406 PO9529 INHBB_HUMAN) and a His-tag at the N-terminal end. It has a predicted molecular mass of 14 kDa.
p.I:	6.40
Purity:	>97% as determined by SDS-PAGE gel.
Endotoxin level:	<0.04 EU/ µg protein (LAL method)
Applications:	Cell culture, Western Blot

Sequence:

HHHHHHHHHH GLECDGRTNL CCRQQFFIDF RLIGWNDWII APTGYYGNYC EGSCPAYLAG VPGSASSFHT AVVNQYRMRG LNPGTVNSCC IPTKLSTMSM LYFDDEYNIV KRDVPNMIVE ECG

Description:

Activins are homodimers or heterodimers of the various β subunit isoforms, belonging to the TGF-beta family. Mature Activin B has two chains of 123 amino acids residues (betaB-betaB). Activin exhibits a wide range of biological activities, including mesoderm induction, neural cell differentiation, bone remodelling, haematopoiesis, and reproductive physiology. Activins plays a keyrole in the production and regulation of hormone ssuch as FSH, LH, GnRH and ACTH. Inhibins/Activins are protein that are formed by the dimerization of two subunits, i.e. an α (alpha) with either betaA (βA)-Inhibin A or betaB (βB)-Inhibin B. The subunits beta and betaB can also form homodimers or heterodimers called Activin:ActivinA (betaA-betaA), ActivinB (betaB-betaB) and ActivinAB (betaA-betaB). The Activin gene family comprises the additional, but poorly characterized members' Activin betaC (βC), betaD (βD) and betaE (βE). As with other members of the super-family, Activins interact 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 type1 receptors, ACVR1, ACVR1B, ACVR1C and Activin type 2 receptors, ACVR2A, ACVR2B.

Source:

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.

Formulation:

Lyophilized from a Tris HCl 0.05M buffer at pH 7.4

Reconstitution recommendation:

Lyophilized protein should be reconstituted in water following instructions of batch Quality Control sheet. At higher concentrations the solubility may be reduced and multimers generated. Optimal concentration should be determined for specific application and cell lines.

Storage and Stability:

This lyophilized preparation is stable at 2-8ºC 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..

Purity Confirmation:

The protein was resolved by SDS polyacrylamide gel electrophoresis and the gel was stained with Coomassie blue.

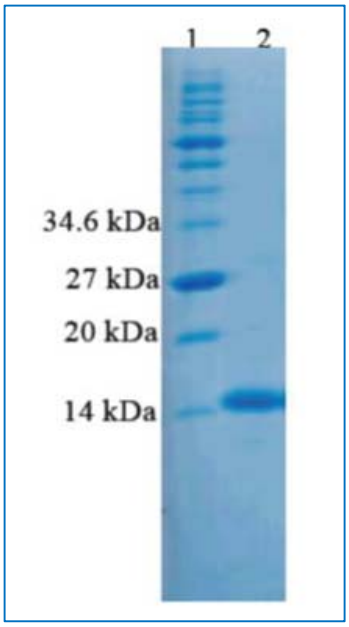


Figure 1. SDS-PAGE analysis of recombinant Activin B. Samples were loaded in 15% SDS-polyacrylamide gel and stained with Coomassie blue.
Lane 1: Molecular weight marker (kDa)
Lane 2: contains 0.5 µg of recombinant Activin B

Serological Confirmation:

The protein was electrophoresed under reducing condition on a 15% SDS-polyacrylamide gel, transferred by electroblotting to a NC membrane and visualized by immune-detection with specific Activin B antibody.

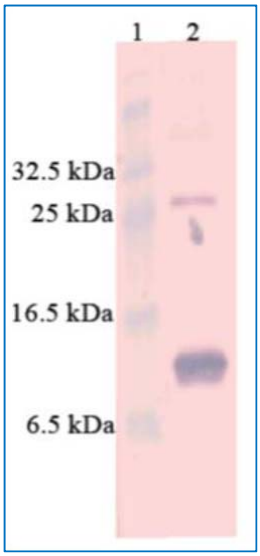
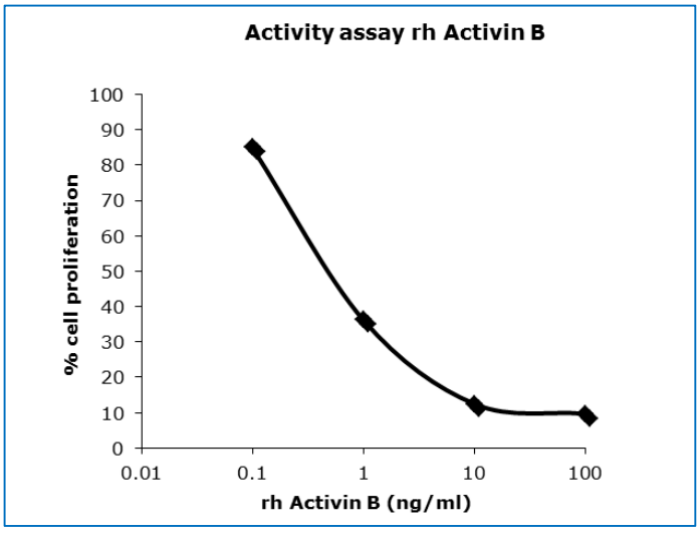


Figure 2. Western Blot analysis of recombinant Activin B.
Lane 1: Moleculat weight marker (kDa)
Lane 2: 0.2 µg of Activin B

Biological Activity:

The biological activity of Activin B is measured by its ability to inhibit mouse plasmacytoma cell line (MPC-11) cells proliferation.
EC50 < 5 ng/mL are required to stimulate a half-maximal response at cytokine saturation.
Note: Since applications vary, each investigator should titrate the reagent to obtain optimal results.



References:

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