



Recombinant Human Activin A protein Active
Human recombinant protein expressed in *Nicotiana benthamiana*.

Cat. No. RF0010-1
RF0010-5
RF0010-10

Molecular formula:

$C_{600}H_{911}N_{173}O_{174}S_{13}$

Molecular weight:

27.4 kDa disulfide-linked homodimers of two β A chains, each containing 116 amino residues

p.I:

7,27

Extinction coefficient :

$E_{0.1\%} = 1,27$ (A 280 nm)

Purity assay:

> 97% by SDS-PAGE gel

Endotoxin level:

< 0.04 EU/ μ g protein (LAL method)

Animal-free product*

Sequence:

HHHHHHGLECDGKVNICCKKQFFVSKDIGWNDWIIAPSGYHANYCEGECPSHIAGT
SGSSLSFHSTVINHYRMRGHSPFANLKSCCVPTKLRPMSMLYYDDGQNIKKDIQNMI
VEECGCS

Description:

Activins are homodimers or heterodimers of the various β subunit isoforms, belonging to the TGF β family. Mature Activin A has two 116 amino acids residues β A subunits (β A- β A). 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. Cells known to express Activin A include fibroblasts, endothelial cells, hepatocytes, vascular smooth muscle cells, macrophages, keratinocytes, osteoclasts, bone marrow monocytes, prostatic epithelium, neurons, chondrocytes, osteoblasts, Leydig cells, Sertoli cells, and ovarian granulosa cells. 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 type 1 receptors, ACVR1, ACVR1B, ACVR1C and Activin type 2 receptors, ACVR2A, ACVR2B. The biological activity of Activin A can be neutralized by inhibins and by the diffusible TGF-B antagonist, Follistatin.

Formulation:

Lyophilized from a Tris HCl 0.05M buffer at pH 7,4

Source:

Produced by transient expression of Activin A in non-transgenic plants. Recombinant human Activin A contains a 6-His-tag at the N-terminal end and is purified by sequential chromatography (FPLC). Contains no animal-derived components or impurities.

Reconstitution recommendation:

Lyophilized protein should be reconstituted in water to a concentration of 50 ng / μ l. Due to the protein nature, dimmers and multimers may be observed.

Storage and Stability:

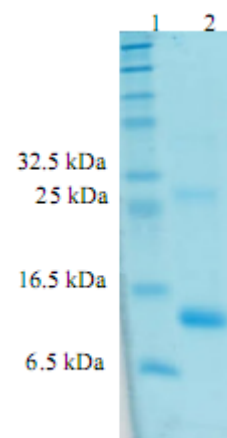
This lyophilized preparation is stable at 2-8° C. For long storage should be kept at -20° C and it is recommended to add a carrier protein (0.1% HSA or BSA). Repeated freezing and thawing is not recommended.

Purity and Serological Identification:

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 A. Samples were loaded in 15% SDS-polyacrylamide gel and stained with Coomassie blue. Lane 1: Molecular weight marker (kDa); Lane 2: contains 0.2 ug of recombinant Activin A

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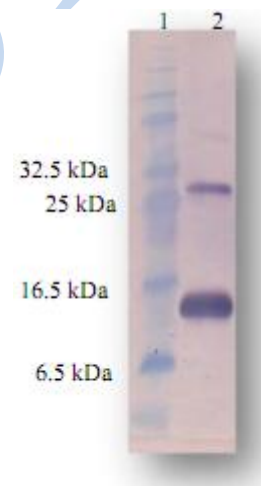
Recombinant Human Activin A Active

Serological Identification:

Serological Identification: 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 antibody Activin A.

Figure 2. Western Blot analysis of recombinant Activin A. Lane 1: Molecular weight marker (kDa). Lane 2: 0.2 ug of Activin A.



Biological Activity:

Biological Activity: The biological activity of Activin A is measured by its ability to inhibit mouse plasmacytoma cell line (MPC-11) cells proliferation ([3H]thymidine incorporation).

ED50 \leq 5ng/ml

References

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We recommend for optimal usage follow instructions of batch Quality control sheet

For R+D purposes only. Purchaser must determine the suitability of the product(s) for their particular use.

***Agrenvec products are expressed in a plant system and intrinsically have extremely low endotoxin levels and are Animal-free.**