

Active Recombinant Human Activin A, CF

Cat. No. Activin A-57H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	A DNA sequence encoding the human Activin A protein sequence (Mason, A. et al., 1986, Biochem. Biophys. Res. Commun. 135:957 - 964) was expressed in CHO cells.
Species	Human
Source	CHO
Description	Activins, members of the TGF-beta superfamily, are disulfide-linked dimeric proteins originally purified from gonadal fluids as proteins that stimulated pituitary follicle stimulating hormone (FSH) release. Activin proteins have a wide range of biological activities, including mesoderm induction, neural cell differentiation, bone remodeling, hematopoiesis and roles in reproductive physiology. Activin isoforms and other members of the TGF-beta superfamily exert their biological effects by binding to heteromeric complexes of a type I and a type II serine-threonine kinase receptor, both of which are essential for signal transduction. Activins are homodimers or heterodimers of the various beta subunit isoforms, while inhibins are heterodimers of a unique alpha subunit and one of the various beta subunits. Five beta subunits (mammalian beta A, beta B, beta C, beta E and Xenopus beta D) have been cloned to date. The activin/inhibin nomenclature reflects the subunit composition of the proteins: Activin A (beta A - beta A), Activin B (beta B - beta B), Activin AB (beta A - beta B), Inhibin A (alpha - beta A) and Inhibin B (alpha - beta B).
Bio-activity	Measured by its ability to induce hemoglobin expression in K562 cells (Schwall, R.H. et al., 1991, Method Enzymol. 198:340).

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Molecular Mass	Recombinant human mature Activin A is a disulfide-linked homodimer of two 116 amino acid residue β A subunits. The mature β A monomer lacks a potential N-linked glycosylation site and has a calculated molecular mass of 13 kDa.
Endotoxin	< 1.0 eu per 1 μ g of the cytokine as determined by the lal
Purity	>97%, as determined by SDS-PAGE and visualized by silver stain
Storage	Lyophilized samples are stable for up to six months at -20° C to -70° C. Upon reconstitution, this cytokine, in the presence of a carrier protein, can be stored under sterile conditions at 2 - 8° C for one month or at -20° C to -70° C in a manual defrost freezer for three months without detectable loss of activity. Avoid repeated freeze-thaw cycles.
Reconstitution	It is recommended that sterile phosphate-buffered saline be added to the vial to prepare a working stock solution of no less than 50 μ g/mL. The carrier-free protein should be used immediately upon reconstitution to avoid losses in activity due to non-specific binding to the inside surface of the vial. For long term storage as a dilute solution, a carrier protein (e.g. 0.1% HSA or BSA) should be added to the vial.