

Product Information

ACTIVIN A Bovine Recombinant From Baculovirus

Product Number **A 4839**

Product Description

Activin-A (inhibin $\exists A \exists A$) is a disulfide-linked dimeric protein secreted by Sertoli cells in the testis and granulosa cell in the ovary. In early studies, this peptide was thought to be inhibin and not recognized as a unique compound^{5,6}. Activins and inhibins have been further characterized and include 3 separate peptides exhibiting a combination of $+\forall$, $\exists A$, and $\exists B$ subunits. Recently the C, D, and E $-\exists$ subunits have also been cloned⁵. Activins are homodimers or heterodimers made up of the \exists subunit isoforms.

Mammalian activin - A is identified as the $\exists A \exists A$ form. Bovine, porcine, human, and murine activin - A demonstrate 98% homology. These compounds are classified as members of the TGF- \exists super family due to amino acid homology with respect to the conservation of 7 of the 9 Cysteine residues common to all TGF- \exists forms⁴.

Activin-A has been recognized for its range of activities involving growth and differentiation of several tissues from different species^{2,3}. It plays a key role in production and regulation of hormones such as FSH, LH, GnRH, and ACTH. Activin also influences erythropoiesis and the potentiation of erythroid colony formation, oxytocin secretion, paracrine, and autocrine regulation⁵.

Performance Characteristics

The activity of bovine recombinant Activin was determined in a bioassay using *Xenopus* pole explants³. Animal pole regions were dissected from embryos in the blastula stage. Cell growth and morphology as well as the immunoprecipitation of [³⁵S] methionine were used to determine ED₅₀ values.

Product Information

Expressed in Baculovirus
Molecular Weight: 24 kDa
Purity: \exists 98% by SDS-PAGE
Activity: $>2 \times 10^6$ units/mg³
ED₅₀: 0.1-10 ng/ml^{1,3}
Endotoxin: # 0.05 ng/:g
Package size: 1:g
Formulation: Lyophilized from solution containing no preservatives.

Reconstitution and Use

Reconstitute in 1ml 40% acetonitrile containing 0.1% trifluoroacetic acid. Dilute to working concentration using tissue culture medium. Filter sterilize using 0.22 μ m cellulose acetate filter membrane to prevent loss of product.

Storage

Store lyophilized powder at -20 to -70 °C. After reconstitution, store at -20 to -70 °C for up to 3 months. **Avoid repeated freeze-thaw cycles.**

References

1. De Winter J., et al., Mol. Cell Endocrinol, 83:105 (1992).
2. Smith, J., et al., Cell, 67:79 (1991).
3. De Winter, J., et al., Endocrinology, 132:975 (1993).
4. Sporn, M.B. and Roberts, A.B., eds., Peptide Growth Factors and Their Receptors, Springer-Verlag Heidelberg, Vol. I, p.429 (1991).
5. Sporn, M.B. and Roberts, A.B. eds., Peptide Growth Factors and Their Receptors, Springer-Verlag Heidelberg, Vol. II, pp.217-235 (1991).
6. De Jong, F., et al., J. Reprod. Fertil., 26:47 (1979).

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