

DESCRIPTION

Source Human embryonic kidney cell, HEK293-derived
Gly297-Ala411
Accession # Q04999

N-terminal Sequence Analysis Gly297

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 13 kDa (monomer)

SPECIFICATIONS

SDS-PAGE 12 kDa, reducing conditions

Activity Measured by its ability to induce hemoglobin expression in K562 human chronic myelogenous leukemia cells. Schwall, R.H. *et al.* (1991) Method Enzymol. **198**:340.
The ED₅₀ for this effect is 0.2-1.2 ng/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE with silver staining.

Formulation Lyophilized from a 0.2 µm filtered solution in HCl with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile 4 mM HCl.

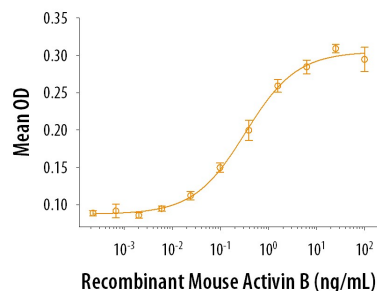
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

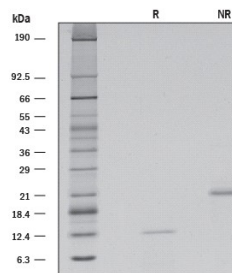
DATA

Bioactivity



Recombinant Mouse Activin B (Catalog # 8260-AB) induces hemoglobin expression in K562 human chronic myelogenous leukemia cells. The ED₅₀ for this effect is 0.2-1.2 ng/mL.

SDS-PAGE



1 µg/lane of Recombinant Mouse Activin B was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing bands at 12 and 21 kDa, respectively.

BACKGROUND

Activin and Inhibin, members of the TGF- β superfamily of cytokines, are involved in a range of biological processes including neural development, stem cell differentiation, reproductive physiology, inflammation, tissue morphogenesis and bone remodeling (1-5). Activins function as either a homodimer or heterodimer of non-glycosylated β subunit proteins (β A, β B, β C, and β E in mammals). Inhibins are heterodimers consisting of a unique α subunit and any one β subunit. The α - and β -subunits are produced as precursor proteins with an amino-terminal propeptide that is cleaved to release a carboxy-terminal monomeric subunit that becomes bioactive upon disulfide linkage with another Activin monomer (6, 7). The bioactive Activin B dimeric protein consists of two β B subunits. The 13 kDa mature mouse Activin β B subunit shares 99% and 98% amino acid sequence identity with rat and human Activin β B, respectively. Activin B exerts its biological function upon binding to the type 2 serine/threonine kinase Activin receptor (Act RIIA). This receptor-ligand complex noncovalently associates and transphosphorylates the type 1 Activin receptor (ActRI) to initiate intracellular SMAD activation and the subsequent regulation of Activin-responsive gene transcription (8). BAMBI, Betaglycan, and Cripto, regulate the bioactivity of Activin B by restricting its ability to induce receptor complex assembly. Alternatively, bioavailability of Activin B is modulated through sequestration into inactive complexes with α 2-Macroglobulin, Follstatin, and FLRG (9-12).

References:

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