

DESCRIPTION

Source	<i>Spodoptera frugiperda</i> , Sf 21 (baculovirus)-derived			
	Human Activin RIIA (Ser25 - Pro134) Accession # P27037	IEGRMD	Human IgG ₁ (Pro100 - Lys330)	6-His tag
	N-terminus		C-terminus	

N-terminal Sequence Ser25

Analysis

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 40 kDa (monomer)

SPECIFICATIONS

SDS-PAGE 50 kDa, reducing conditions

Activity Measured by its ability to inhibit Activin A-induced hemoglobin expression in K562 human chronic myelogenous leukemia cells. Schwall, R.H. *et al.* (1991) *Method Enzymol.* **198**:340.
Approximately 0.03-0.1 µg/mL of rhActivin RIIA/Fc Chimera will inhibit 50% of the biological response due to 3 ng/mL of rhActivin A.

Endotoxin Level <1.0 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile PBS.

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.

BACKGROUND

Activin proteins are involved in a wide range of biological processes including mesoderm induction, neural cell differentiation, bone remodeling, hematopoiesis, the regulation of reproductive physiology, inflammation, and carcinogenesis (1 - 3). They function through heteromeric complexes of type I and type II serine/threonine kinase receptors (2, 4). Dimeric ligands bind to a type II receptor, such as Activin Receptor IIA (ActRIIA), which then associates with a type I receptor to initiate signal transduction (4). ActRIIA mediates the pleiotropic effects of Activins and Inhibins as well as several members of the BMP and GDF families of TGF-β like proteins (4). Mature human ActRIIA is a 70 kDa glycoprotein that consists of a 116 amino acid (aa) extracellular domain (ECD), a 26 aa transmembrane segment, and a 352 aa cytoplasmic region that includes the kinase domain and a PDZ-binding motif (5). Within the ECD, human ActRIIA shares 98% aa sequence identity with mouse and rat ActRIIA. Signaling through ActRIIA is modulated by its interaction with RGM-B/DRAGON, Cripto, Endoglin/CD105, TGF-β RIII/Betaglycan, or BAMBI (6 - 10). These interactions can enhance ligand-induced signaling or interfere with signaling by preventing ActRIIA association with type I receptors (6 - 9). Activin-induced responses can also be limited by the enhanced internalization of ActRIIA following its association with the cytoplasmic proteins ARIP1 and ARIP2 (11, 12).

References:

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