Recombinant Mouse Activin C

Catalog Number: 489-AC/CF

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived Gly237-Ser352 Accession # P55104
N-terminal Sequence Analysis	Gly237
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	12.6 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	13 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Mouse Activin RIIA Fc Chimera (Catalog # 6356-R2) is immobilized at 2.5 µg/mL (100 µL/well), the concentration of Recombinant Mouse Activin C that produces 50% of the optimal binding response is approximately 5-25 ng/mL.
Endotoxin Level	<0.01 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. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in 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, -70 °C under sterile conditions after reconstitution.

BACKGROUND

Activins and Inhibins are TGF-β superfamily proteins that regulate a wide range of processes including mesoderm induction, reproductive system development and function, liver growth and regeneration, wound healing, and inflammation. Activins signal through heterodimeric receptor complexes composed of type I (Activin RIA or RIB) and type II (Activin RIIA or RIIB) transmembrane Ser/Thr kinases. There are four human Inhibin beta subunits (β_A, β_B, β_C, and β_E) and a single Inhibin alpha subunit, each of which adopts a cysteine-knot structure (1-3). Activins are disulfide-linked homodimers or heterodimers of beta subunits, while Inhibins contain the alpha subunit and β_A or β_B. Mouse β_C consists of an 18 aa signal sequence, a 218 aa propeptide, and a 116 aa mature segment (4, 5). Mature mouse β_C shares 52%, 52%, and 63% aa sequence identity with mouse β_A, β_B, and β_E, respectively. It shares 93% and 94% aa sequence identity with human and rat β_C, respectively. The expression of β_C is restricted compared to the widespread distribution of β_A and β_B. Activin C is expressed as an approximately 20 kDa dimer predominantly by hepatocytes but also by multiple cell types in the male and female reproductive tracts, posterior pituitary and adrenal glands, and nociceptive afferent dorsal root ganglia neurons (6-8). The β_C subunit regulates Activin induced effects in a variety of systems by forming intracellular dimers with the β_A subunit and impeding the release of Activins A and AB (9, 10). It also functions extracellularly by interfering with Activin A-receptor interactions (7, 8, 9). β_C can additionally form heterodimers with the β_B or β_E subunits (10, 12, 13).

References:

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