

**DESCRIPTION**

**Source** Human embryonic kidney cell, HEK293-derived  
Gly237-Ser352  
Accession # P55103

**N-terminal Sequence Analysis** Gly237

**Structure / Form** Disulfide-linked homodimer

**Predicted Molecular Mass** 12.5 kDa (monomer)

**SPECIFICATIONS**

**SDS-PAGE** 13 kDa, reducing conditions

**Activity** Measured by its binding ability in a functional ELISA.  
When Recombinant Human Activin RIIA Fc Chimera (CHO) (Catalog # 340-RC2) is immobilized at 2.5 µg/mL (100 µL/well), the concentration of Recombinant Human Activin C that produces 50% of the optimal binding response is approximately 6-30 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 with BSA as a carrier protein. 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, -20 to -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<sub>A</sub>, β<sub>B</sub>, β<sub>C</sub>, and β<sub>E</sub>) 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<sub>A</sub> or β<sub>B</sub>. Human β<sub>C</sub> consists of an 18 aa signal sequence, a 218 aa propeptide, and a 116 aa mature segment (4). Mature human β<sub>C</sub> shares 51%, 53%, and 64% aa sequence identity with human β<sub>A</sub>, β<sub>B</sub>, and β<sub>E</sub>, respectively. It shares 93% and 91% aa sequence identity with mouse and rat β<sub>C</sub>, respectively. The expression of β<sub>C</sub> is restricted compared to the widespread distribution of β<sub>A</sub> and β<sub>B</sub>. 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 (5-7). The β<sub>C</sub> subunit regulates Activin induced effects in a variety of systems by forming intracellular dimers with the β<sub>A</sub> subunit and impeding the release of Activins A and AB (8, 9). It also functions extracellularly by interfering with Activin A-receptor interactions (6, 7, 10). β<sub>C</sub> can additionally form heterodimers with the β<sub>B</sub> or β<sub>E</sub> subunits (9, 11, 12).

**References:**

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