

**DESCRIPTION**

**Source** Chinese Hamster Ovary cell line, CHO-derived  
Ser233-Ile366 (alpha chain) & Gly311-Ser426 (beta chain)  
Accession # P05111 (alpha chain) & P08476 (beta chain)

**N-terminal Sequence Analysis** Ser233 (alpha chain) & Gly311 (beta chain)

**Structure / Form** Disulfide-linked heterodimer

**Predicted Molecular Mass** 15 kDa (alpha chain) & 13 kDa (beta chain)

**SPECIFICATIONS**

**SDS-PAGE** 12-25 kDa, reducing conditions

**Activity** Measured by its ability to neutralize Activin-mediated erythroid differentiation of K562 human chronic myelogenous leukemia cells. The ED<sub>50</sub> for this effect is 3-18 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**

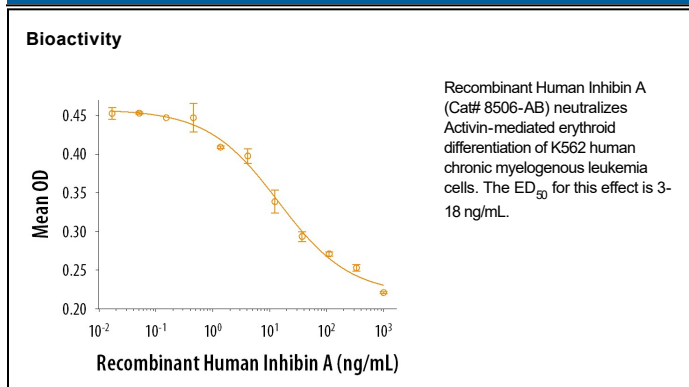
**Reconstitution** Reconstitute at 250 µg/mL in 4 mM HCl.

**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.

**DATA**



**BACKGROUND**

Inhibin A is a member of the TGF- $\beta$  superfamily of proteins (1). Mature Inhibin A is a disulfide-linked dimer composed of  $\alpha$  and  $\beta$  subunits (1). Inhibin A shares a common  $\alpha$  subunit with the closely related protein Inhibin B but has a unique  $\beta$  subunit ( $\beta$ A) (2, 3). The mature  $\alpha$  subunit of human Inhibin A has a predicted molecular weight of 18 kDa and shares 80% amino acid (aa) sequence identity with the mouse and rat orthologs (2, 4). The mature  $\beta$  subunit of this human protein has a predicted molecular weight of 13 kDa and shares 93% aa sequence identity with the mouse and rat orthologs (2). Inhibin binds and antagonizes ActRIIA and ActRIIB in complex with the TGF- $\beta$  RIII and/or IGSF1 co-receptors and subsequently acts to suppress Activin-induced Follicle Stimulating Hormone (FSH) secretion (1, 5-7). Inhibins are produced by gonadal cells in both males and females (8). They are thought to be involved in the regulation of gametogenesis, and embryonic and fetal development (8, 9). Elevated concentrations of Inhibins are associated with pregnancy, preeclampsia, and ovarian cancer, and Inhibin A levels are typically measured during prenatal screening for Down's syndrome (10-14).

**References:**

1. Phillips, D.J. and T.K. Woodruff (2004) *Growth Factors* **22**:13.
2. Mason, A.J. *et al.* (1986) *Biochem. Biophys. Res. Commun.* **135**:957.
3. Ying, S.Y. (1987) *Proc. Soc. Exp. Biol. Med.* **186**:253.
4. Mayo, K.E. *et al.* (1986) *Proc. Natl. Acad. Sci. USA* **83**:5849.
5. Lewis, K.A. *et al.* (2000) *Nature* **404**:411.
6. Martens, J.W. *et al.* (1997) *Endocrinology* **138**:2928.
7. Chapman, S.C. *et al.* (2002) *Mol. Cell. Endocrinol.* **196**:79.
8. de Kretser, D.M. and D.M. Robertson (1989) *Biol. Reprod.* **40**:33.
9. Knight, P.G. *et al.* (2012) *Mol. Cell. Endocrinol.* **359**:53.
10. Walentowicz, P. *et al.* (2014) *PLoS One* **9**:e90575.
11. Kondi-Pafiti, A. *et al.* (2013) *Clin. Exp. Obstet. Gynecol.* **40**:109.
12. Kuijper, E.A. *et al.* (2013) *Reprod. Biomed. Online* **27**:33.
13. Carty, D.M. *et al.* (2008) *Trends Cardiovasc. Med.* **18**:186.
14. Wald, N.J. *et al.* (1996) *Prenat. Diagn.* **16**:143.