Animal-Free Activin A Protein, Human/Mouse/Rat (His)

Cat. No.:	HY-P700159AF
Synonyms:	Activin beta-A chain; EDF; Erythroid differentiation factor; Erythroid differentiation protein; Follicle stimulating hormone releasing protein; FRP; FSH releasing protein; INHBA; INHBA_HUMAN; Inhibin beta A chain; Inhibin beta A subunit; Inhibin, beta 1; Inhibin, beta A activin A, activin AB alpha polypeptide;
Species:	Human;Rat;Mouse
Source:	E. coli
Accession:	P08476 (G311-S426)
Gene ID:	3624
Molecular Weight:	Approximately 13.9 kDa

PROPERTIES

AA Sequence	M G L E C D G K V N I C C K K Q F F V S F K D I G W N D W I I A P S G Y H A N Y C E G E C P S H I A G T S G S S L S F H S T V I N H Y R M R G H S P F A N L K S C C V P T K L R P M S M L Y Y D D G Q N I I K K D I Q N M I V E E C G C S
Biological Activity	Measure by its ability to induce hemoglobin expression in K562 cells.The ED_{50} for this effect is ≤ 0.85 ng/mL. The specific activity of recombinant human Activin A is approximately >1.4 x 10^3 IU/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 0.1% sarkosyl in 1X PBS, pH 8.0.
Endotoxin Level	<0.1 EU per 1 μg of the protein by the LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	INHBA protein assumes a pivotal role in the intricate regulation of pituitary gland function, contributing to the opposing dynamics of inhibiting and activating follitropin secretion alongside activins. The expansive influence of inhibins and activins, with INHBA as a central player, spans a spectrum of physiological processes, including hypothalamic and pituitary hormone secretion, gonadal hormone secretion, germ cell development and maturation, erythroid differentiation, insulin secretion, nerve cell survival, embryonic axial development, and bone growth, contingent upon their unique subunit compositions. Notably, inhibins, such as Inhibin A and Inhibin B, emerge as counterparts opposing the functions of activins.

Structurally, INHBA exists in a dimeric form, intricately linked by one or more disulfide bonds, representing a homodimer of beta-A subunits. The diversity of activins, encompassing Activin A, Activin B, and Activin AB, further emphasizes their specific subunit compositions, influencing interactions with regulatory proteins like FST and FSTL3. This intricate interplay underscores INHBA's central role in orchestrating a finely tuned regulatory network governing diverse physiological functions.

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