

Recombinant Rat INHBA Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52299

Size: 10ug, 100ug

Protein Name: Inhibin beta A chain (Activin beta-A chain)

Synonym: Inhba

UniProt ID: P18331

UniProt Link: www.uniprot.org/uniprotkb/P18331/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 424 AA

Molecular Weight: 47 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MPLLWLRGFLASCWIIVRSSPTPGSEGHGAAPDCPSCALATLPKDGPN SQPEMVEAVKKHILNMLH
LKKRPDVTQVPK AALLNAIRKLHVGVGENGYVEIEDDIGRRAEMNELMEQTSEIITFAESGTARKT
LHFEISKEGSDLSVVERAEVWFLKVPKANRTRTKVTIRLFQQQKHPQGSLDMGDEAEEMGLKGER
SELLLSEKVVDARKSTWHIFPVSSSIQRLLDQ GKSSLDVRIACEQCQESGASLVLLGKKKKKEVDGD
GKKKDGSDGGLLEEEKEQSHRPFLMLQARQSEDHPHRRRRRRGLECDGKVNICKKKQFFVSFKDIGW
NDWIIAPSGYHANYCEGECPSHIAGTSGSSLSFHSTVINHYRMRGHSPFANLKSCCVPTKLRPMSML
YYDDGQNIKKDIQNMIVEECGCS

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Inhibin beta A chain (Activin beta-A chain) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Inhibins/activins are involved in regulating a number of diverse functions such as hypothalamic and pituitary hormone secretion, gonadal hormone secretion, germ cell development and maturation, erythroid differentiation, insulin secretion, nerve cell survival, embryonic axial development or bone growth, depending on their subunit composition.; Activin A is a homodimer of INHBA that plays a role in several essential biological processes including embryonic development, stem cell maintenance and differentiation, haematopoiesis, cell proliferation and tissue fibrosis. Signals through type I (such as ACVR1B or ACVR1C) and type II receptors (such as ACVR2A, ACVR2B or BMPR2) which, upon ligand binding, phosphorylate SMAD2 and SMAD3 intracellular signaling mediators that form a complex with SMAD4, translocate to the nucleus and modulate gene expression. Can also activate alternative non-canonical intracellular signaling pathways including the p38 MAPK, extracellular signal-regulated kinases 1/2 (ERK1/2) and c-Jun N-terminal kinases (JNKs) to modulate cell migration and differentiation. Alternatively, promotes osteoblastic differentiation via ACVRL1-SMAD1/5/9 pathway. In addition, can engage the type I receptor ACVR1 to form an ACVR1-activin A-type II receptor non-signaling complex (NSC) that renders receptors unavailable for engagement with BMPs, hence resulting in an apparent inhibition of ACVR1-mediated BMP signaling.; Inhibin A is a dimer of alpha/INH A and beta-A/INHBA that functions as a feedback regulator in the hypothalamic-pituitary-gonadal (HPG) axis. Inhibits the secretion of FSH from the anterior pituitary gland by acting on pituitary gonadotrope cells. Antagonizes activin A by binding to the proteoglycan, betaglycan, and forming a stable complex with and, thereby, sequestering type II activin receptors while excluding type I receptor.

Subcellular Localization: Secreted .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.