

ACVR2B Protein, Human (P. pastoris, N-His)

Cat. No.:	HY-P700557
Synonyms:	Activin receptor type IIB; ACTR-IIB
Species:	Human
Source:	P. pastoris
Accession:	Q13705 (S19-T137)
Gene ID:	93
Molecular Weight:	15.7 kDa

PROPERTIES

AA Sequence	<p> S G R G E A E T R E C I Y Y N A N W E L E R T N Q S G L E R C E G E Q D K R L H C Y A S W R N S S G T I E L V K K G C W L D D F N C Y D R Q E C V A T E E N P Q V Y F C C C E G N F C N E R F T H L P E A G G P E V T Y E P P P T A P T L L T </p>
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
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	<p>ACVR2B, a transmembrane serine/threonine kinase, forms an activin receptor complex with activin type-1 serine/threonine kinase receptors (ACVR1, ACVR1B, or ACVR1c), playing a crucial role in transducing activin signals across the cell membrane and regulating various physiological and pathological processes. This includes influencing neuronal differentiation and survival, hair follicle development and cycling, FSH production by the pituitary gland, wound healing, extracellular matrix production, immunosuppression, and carcinogenesis. Activin, known to have a paracrine or autocrine role in ovarian follicular development, binds to the type-2 receptor at the plasma membrane, activating its serine-threonine kinase activity. This activated type-2 receptor then phosphorylates and activates the type-1 receptor, such as ACVR1B, leading to subsequent phosphorylation of the SMAD proteins SMAD2 and SMAD3. Once activated, SMAD2 and SMAD3, in association</p>
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with the common partner SMAD4, translocate into the nucleus, where they mediate activin-induced transcription. The inhibitory SMAD7, recruited to ACVR1B through FKBP1A, can prevent the association of SMAD2 and SMAD3 with the activin receptor complex, blocking the activin signal. Furthermore, the binding of inhibin-B to the receptor, facilitated by the IGSF1 inhibin coreceptor, acts as an antagonist to activin signal transduction.

Caution: Product has not been fully validated for medical applications. For research use only.

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