

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Activin RIIB in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse Activin RIIB is observed, and less than 1% cross-reactivity with recombinant human (rh) Activin RIIA, rhActivin RIA, and rhActivin RIB is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Activin RIIB Ser19-Thr134 Accession # CAA54671
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

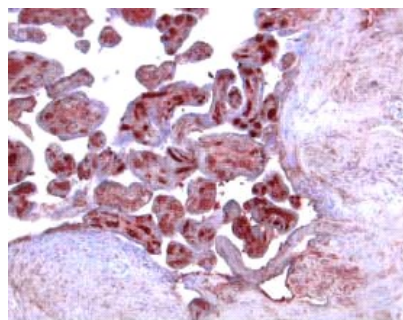
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the [Technical Information](#) section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human Activin RIIB Fc Chimera (Catalog # <a href="#">339-RB</a> )
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>Blockade of Receptor-ligand Interaction</b>	In a functional ELISA, 1-3 µg/mL of this antibody will block 50% of the binding of 30 ng/mL of Recombinant Biotinylated Human/Mouse/Rat Activin A to immobilized Recombinant Human Activin RIIB Fc Chimera (Catalog # <a href="#">339-RB</a> ) coated at 2 µg/mL (100 µL/well). At 30 µg/mL, this antibody will block >90% of the binding.	

## DATA

### Immunohistochemistry



**Activin RIIB in Human Placenta.** Activin RIIB was detected in immersion fixed paraffin-embedded sections of human placenta (cross-section of chorionic villi) using 5 µg/mL Goat Anti-Human Activin RIIB Antigen Affinity-purified Polyclonal Antibody (Catalog # AF339) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Activin isoforms and other members of the TGF- $\beta$  superfamily exert their biological effects by binding to heteromeric complexes of a type I and a type II serine-threonine kinase receptor, both of which are essential for signal transduction. Seven type I and five type II receptors, including the two type I and the two type II activin receptors, designated ActR-I(A), ActR-IB, ActR-II(A) and ActR-IIB, have been cloned from mammals. Through alternative mRNA splicing, multiple ActR-IIB isoforms can also be generated, adding to the complexity of the activin receptor system. Different activin isoforms bind with different high-affinities to the various type II isoforms. Type I activin receptors do not bind directly to activin, but will associate with the type II receptor-activin complex and initiate signal transduction. Besides the activin isoforms, ActR-II will also bind inhibin, BMP-2 and BMP-7 with lower affinities. ActR-I can also bind and form signaling complexes with the BMP-2/7-bound BMPR-II. Activin type II receptors are highly conserved. Human, mouse and rat type II activin receptors share greater than 98% amino acid sequence homology. Recombinant soluble activin type II receptors bind activin with high affinity, and are potent activin antagonists.

## References:

1. Attisano, L. *et al.* (1996) *Mol. and Cell Biol.* **16**:1066.
2. Woodruff, T.K. (1998) *Biochem. Pharmacology* **55**:953.