

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Activin RIA/ALK-2 in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) Activin RIB, rhActivin RIIA, and rhActivin RIIB is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human Activin RIA/ALK-2 Asp23-Glu123 Accession # Q04771
<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 as a 0.2 µm filtered solution in PBS.

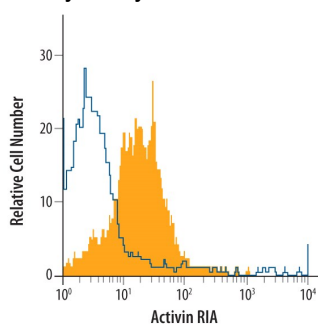
## APPLICATIONS

**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.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human Activin RIA/ALK-2 Fc Chimera (Catalog # 637-AR)
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

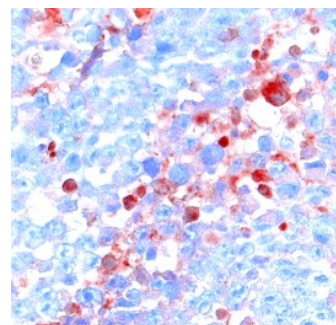
## DATA

### Flow Cytometry



**Detection of Activin RIA/ALK-2 in PC-3 Human Cell Line by Flow Cytometry.**  
PC-3 human prostate cancer cell line was stained with Goat Anti-Human Activin RIA/ALK-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF637, filled histogram) or control antibody (Catalog # AB-108-C, open histogram), followed by Phycoerythrin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # F0107).

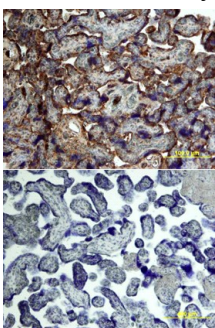
### Immunohistochemistry



#### Activin RIA/ALK-2 in Human Astrocytoma.

Activin RIA/ALK-2 was detected in immersion fixed paraffin-embedded sections of human astrocytoma using 15 µg/mL Goat Anti-Human Activin RIA/ALK-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF637) overnight at 4 °C. Tissue was stained using 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](#).

### Immunohistochemistry



#### Activin RIA/ALK-2 in Human Placenta.

Activin RIA/ALK-2 was detected in immersion fixed paraffin-embedded sections of human placenta using Goat Anti-Human Activin RIA/ALK-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF637) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. 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. To date, 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 I receptors are highly conserved. Human, mouse and bovine type IA activin receptors share greater than 98% amino acid sequence homology. Recombinant soluble activin type I receptor does not bind activin.

## References:

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