

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human TGF-β RIII in direct ELISAs and Western blots. In direct ELISAs, approximately 25% cross-reactivity with recombinant mouse (rm) TGF-β RIII is observed, and less than 1% cross-reactivity with recombinant human (rh) TGF-β RI, rhTGF-β RII, rhTGF-β RIIB, and rmTGF-β RI 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 TGF-β RIII Gly21-Asp781 Accession # AAA67061
<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.

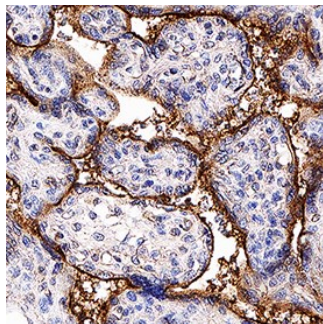
## APPLICATIONS

**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.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 μg/mL	Recombinant Human TGF-β RIII (Catalog # 242-R3)
<b>Flow Cytometry</b>	2.5 μg/10 <sup>6</sup> cells	See Below
<b>Immunohistochemistry</b>	1-15 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.	

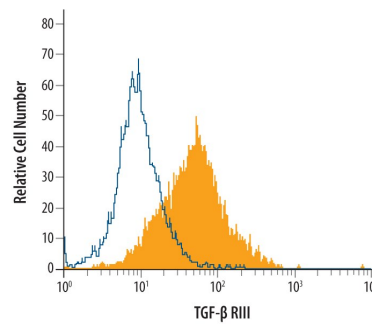
## DATA

### Immunohistochemistry



**TGF-beta RIII in Human Placenta Tissue.**  
TGF-β RIII was detected in immersion fixed paraffin-embedded sections of human placenta tissue using Goat Anti-Human TGF-β RIII Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-242-PB) at 1 μg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # Catalog # VC004). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cell surface on syncytiotrophoblast cells. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

### Flow Cytometry



**Detection of TGF-β RIII in PC-3 Human Cell Line by Flow Cytometry.** PC-3 human prostate cancer cell line was stained with Goat Anti-Human TGF-β RIII Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-242-PB, filled histogram) or isotype control antibody (Catalog # Catalog # AB-108-C, open histogram), followed by Fluorescein-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # F0109).

## 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

Most cell types express three sizes of receptors for TGF- $\beta$ . These are designated Type I (53 kDa), Type II (70-85 kDa), and Type III (250-350 kDa). The Type I receptor is a membrane-bound serine/threonine kinase that apparently requires the presence of the Type II receptor to bind TGF- $\beta$ . The Type II receptor is also a membrane-bound serine/threonine kinase that binds TGF- $\beta$ 1 and TGF- $\beta$ 3 with high affinity and TGF- $\beta$ 2 with a much lower affinity. The Type I and Type II receptors together form a heterodimeric signaling complex that is essential for the transduction of the anti-proliferative signals of TGF- $\beta$ .

The Type III receptor is a transmembrane proteoglycan with a large extracellular domain and a 43 amino acid residue cytoplasmic domain. The cytoplasmic domain of the Type III receptor lacks an obvious signaling motif and the receptor may not be involved directly in signal transduction. The Type III receptor binds TGF- $\beta$ 2 with the highest affinity. Other TGF- $\beta$  isoforms also bind the Type III receptor, but with lower affinities. Cellular responsiveness to TGF- $\beta$ 2 appears to be dependent on the presence of the Type III receptor which can interact with the signaling receptor complex. In addition to the transmembrane Type III receptor, a soluble form of the receptor is secreted by some cell types. The physiological role of this soluble receptor remains to be determined. The recombinant TGF- $\beta$  soluble receptor Type III binds the TGF- $\beta$  isoforms differentially in solution and exhibits TGF- $\beta$  antagonistic activities *in vitro*.