

## bs-1910R-Gold

### • Rabbit Anti-TGF Beta R3 Polyclonal Antibody, Gold conjugated

Conjugated Primary Antibodies

#### Background:

Membrane Receptors

Transforming growth factor beta is a multifunctional cytokine known to modulate several tissue development and repair processes, including cell differentiation, cell cycle progression, cellular migration, adhesion, and extracellular matrix production. There are 3 forms encoded by separate genes TGFB1, TGFB2, and TGFB3. The diverse effects of TGF beta are mediated by the TGF beta receptors and cell surface binding proteins. In addition to type I TGF beta receptor (TGFB1) and type II (TGFB2), type III (TGF beta III receptor) has been identified. It is a glycoprotein that binds TGF beta and exists in both a membrane bound and a soluble form. It may serve as a receptor accessory molecule in both the TGF beta and fibroblast growth factor systems. TGF beta III receptor lacks a recognizable signaling domain and has no clearly defined role in TGF beta signaling. Endothelial cells undergoing epithelial mesenchymal transformation express TGF beta III receptor, and TGF beta III receptor specific antisera inhibits mesenchyme formation and migration. Misexpression of TGF beta III receptor in nontransforming ventricular endothelial cells confers transformation in response to TGFB2. These results support a model where TGF beta III receptor localizes transformation in the heart and plays an essential, nonredundant role in TGF beta signaling.

TGF beta III receptor, or beta glycan, can function as an inhibin coreceptor with ActRII. TGF beta III receptor binds inhibin with high affinity and enhances binding in cells coexpressing ActRII and TGF beta III receptor. Inhibin forms crosslinked complexes with both recombinant and endogenously expressed TGF beta III receptor and ActRII. TGF beta III receptor confers inhibin sensitivity to cell lines that otherwise respond poorly to this hormone. The ability of TGF beta III receptor to inhibit or to facilitate inhibin antagonism of activin provides a variation on the emerging roles of proteoglycans as coreceptors modulating ligand receptor sensitivity, selectivity, and function. Beta arrestin 2 binds to TGF beta III receptor, triggered by phosphorylation of the receptor on its cytoplasmic domain, likely at threonine 841. Phosphorylation is mediated by TGFB2, which is itself a kinase, rather than by a G protein coupled receptor kinase. Association with beta arrestin 2 leads to internalization of both receptors and downregulation of TGF beta signaling. The regulatory actions of beta arrestins are broader than previously appreciated, extending to the TGF beta receptor family as well.

**Purification:** Was purified by Protein A and peptide affinity chromatography.

**Storage:** Prepared as lyophilized powder or liquid and shipped on ice. Store at -20°C for one year.

#### Reconstitution:

If the antibody is in liquid form, no reconstitution needed.

Reconstitution is only required for the lyophilized antibody. Please refer to the reconstitution instruction card in the package.

**Size:** 100ul or 100ug lyophilized

**Concentration:** 1ug/uL

**Host:** Rabbit

#### Reactivities:

Human, Mouse, Rat, Chicken, Dog, Pig, Sheep,

#### Application:

- Electron Microscopy
- Not yet tested in other applications. Optimal working dilutions must be determined by the end user.

**Antibody Type:** Polyclonal

**Isotype:** IgG

**Molecular Weight:** 94kDa

#### Preservatives:

10ug/uL BSA and 0.1% NaN<sub>3</sub>.

For research use only. CAUTION: Not for human or animal therapeutic or diagnostic use.

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