**DESCRIPTION**

**Specificity**
Detects TGF-β1/1.2 in direct ELISAs and Western blots. In direct ELISAs, less than 10% cross-reactivity with TGF-β2 is observed.

**Source**
Polyclonal Chicken IgY

**Purification**
Antigen Affinity-purified from egg yolks

**Immunogen**
Chinese hamster ovary cell line CHO-derived recombinant human TGF-β1
Ala270-Ser390

Accession # P01137

**Endotoxin Level**
<0.10 EU per 1 μg of the antibody by the LAL method.

**Formulation**
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.

<table>
<thead>
<tr>
<th>Recommended Concentration</th>
<th>Sample</th>
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</thead>
<tbody>
<tr>
<td>Western Blot</td>
<td>Recombinant Human TGF-β1 (Catalog # 240-B)</td>
</tr>
<tr>
<td></td>
<td>Recombinant Human TGF-β1.2 (Catalog # 304-B3)</td>
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</table>

**Neutralization**
Measured by its ability to neutralize TGF-β1 inhibition of IL-4-dependent proliferation in the HT-2 mouse T cell line [Tsang, M. et al. (1995) Cytokine 7:389]. The Neutralization Dose (ND₅₀) is typically 5-30 ng/mL in the presence of 1 ng/mL Recombinant Human TGF-β1 and 7.5 ng/mL Recombinant Mouse IL-4.

**DATA**

**Neutralization**

TGF-β1 Inhibition of IL-4-dependent Cell Proliferation and Neutralization by TGF-β1/1.2 Antibody.

- Recombinant Human TGF-β1 (Catalog # 240-B) inhibits Recombinant Mouse IL-4 (Catalog # 404-ML) induced proliferation in the HT-2 mouse T cell line in a dose-dependent manner (orange line). Inhibition of Recombinant Mouse IL-4 (7.5 ng/mL) activity elicited by Recombinant Human TGF-β1 (1 ng/mL) is neutralized (green line) by increasing concentrations of Chicken Anti-TGF-β1/1.2 Antibody. The Neutralization Dose (ND₅₀) is typically 5-30 ng/mL.

**PREPARATION AND STORAGE**

**Reconstitution**
Reconstitute at 0.2 mg/mL in sterile PBS.

**Shipping**
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*

**Stability & Storage**
Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.
TGF-β1 (transforming growth factor beta 1) is one of three closely related mammalian members of the large TGF-β superfamily that share a characteristic cystine knot structure. TGF-β1, -2 and -3 are highly pleiotropic cytokines that are proposed to act as cellular switches that regulate processes such as immune function, proliferation and epithelial-mesenchymal transition. Each TGF-β isoform has some non-redundant functions; for TGF-β1, mice with targeted deletion show defects in hematopoiesis and endothelial differentiation, and die of overwhelming inflammation. Human TGF-β1 cDNA encodes a 390 amino acid (aa) precursor that contains a 29 aa signal peptide and a 361 aa proprotein. A furin-like convertase processes the proprotein to generate an N-terminal 249 aa latency-associated peptide (LAP) and a C-terminal 112 aa mature TGF-β1. Disulfide-linked homodimers of LAP and TGF-β1 remain non-covalently associated after secretion, forming the small latent TGF-β1 complex. Covalent linkage of LAP to one of three latent TGF-β binding proteins (LTBPs) creates a large latent complex that may interact with the extracellular matrix. TGF-β is activated from latency by pathways that include actions of the protease plasmin, matrix metalloproteases, thrombospondin 1 and a subset of integrins. Mature human TGF-β1 shares 100% aa identity with pig, dog and cow TGF-β1, and 99% aa identity with mouse, rat and horse TGF-β1. It demonstrates cross-species activity. TGF-β1 signaling begins with high-affinity binding to a type II ser/thr kinase receptor termed TGF-β RII. This receptor then phosphorylates and activates a second ser/thr kinase receptor, TGF-β R I (also called activin receptor-like kinase (ALK)-5), or alternatively, ALK-1. This complex phosphorylates and activates Smad proteins that regulate transcription. Contributions of the accessory receptors betaglycan (also known as TGF-β RIII) and endoglin, or use of Smad-independent signaling pathways, allow for disparate actions observed in response to TGF-β in different contexts.