# TGF-β Antibody

**For Research Use Only. Not For Use In Diagnostic Procedures.**

<table>
<thead>
<tr>
<th>Applications</th>
<th>Species Cross-Reactivity*</th>
<th>Molecular Wt.</th>
<th>Source</th>
<th><strong>Rabbit</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>W Endogenous</td>
<td>H, M, R</td>
<td>12, 25, 45 kDa</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Background:** Transforming growth factor-β (TGF-β) superfamily members are critical regulators of cell proliferation and differentiation, developmental patterning and morphogenesis, and disease pathogenesis (1-4). TGF-β elicits signaling through three cell surface receptors: type I (RI), type II (RII), and type III (RIII). Type I and type II receptors are serine/threonine kinases that form a heteromeric complex. In response to ligand binding, the type II receptors form a stable complex with the type I receptors allowing phosphorylation and activation of type I receptor kinases (5). The type III receptor, also known as betaglycan, is a transmembrane proteoglycan with a large extracellular domain that binds TGF-β with high affinity but lacks a cytoplasmic signaling domain (6,7). Expression of the type III receptor can regulate TGF-β signaling through presentation of the ligand to the signaling complex. The only known direct TGF-β signaling effectors are the Smad family proteins, which transduce signals from the cell surface directly to the nucleus to regulate target gene transcription (8,9).

There are three TGF-beta family members, designated TGF-β1, TGF-β2, and TGF-β3, which are encoded by distinct genes and are expressed in a tissue specific manner (10). TGF-β proteins are synthesized as precursor proteins that are cleaved and reassembled in association with other proteins to form complexes. Activation occurs by proteolytic release of TGF-β monomers, which dimerize to form the mature TGF-β ligands.

**Specificity/Sensitivity:** TGF-β Antibody detects endogenous levels of TGF-β1 protein. The antibody detects full length (latent) TGF-β1 precursor protein and cleaved (mature) TGF-β1 protein. Western blot analysis using purified recombinant proteins indicates that the antibody can also detect TGF-β2 and TGF-β3.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with synthetic peptide corresponding to a region in the carboxy terminus of TGF-β1. Antibodies are purified by protein A and peptide affinity chromatography.

**Applications Key:** W—Western; IP—Immunoprecipitation; IHC—Immunohistochemistry; CIP—Chromatin Immunoprecipitation; IF—Immunofluorescence; F—Flow cytometry; E—ELISA-Peptide

**Species Cross-Reactivity Key:** H—Human; M—Mouse; RI—Rat; Hm—Hamster; Mk—Monkey; B—Bovine; C—C. elegans; Hr—Horse; All—all species expected

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at −20°C.

**IMPORTANT:** Do not aliquot the antibody.

* *Species cross-reactivity is determined by western blot.*

**Anti-rabbit secondary antibodies must be used to detect this antibody.**

**Recommended Antibody Dilutions:**

Western Blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

**Background References:**


**Western blot analysis of extracts from human platelets, K562, and HCT116 lysate using TGF-β Antigen (upper) and α-Actinin Antibody (lower).**

**Western blot analysis of recombinant human TGF-β1, TGF-β2, and TGF-β3 using TGF-β Antibody.**

**IMPORTANT:** For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween at 4°C with gentle shaking, overnight.

**Support**

877-678-TECH (8324)
info@cellsignal.com

**Web**

www.celsignal.com

---

© 2016 Cell Signaling Technology, Inc.