TGF-β Antibody

#3711

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

<table>
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<tr>
<th>Applications:</th>
<th>WB</th>
<th>Reactivity:</th>
<th>Sensitivity:</th>
<th>MW (kDa):</th>
<th>Source:</th>
<th>UniProt ID:</th>
<th>Entrez-Gene Id:</th>
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<td></td>
<td></td>
<td>H M R</td>
<td>Endogenous</td>
<td>12, 25, 45 to 65</td>
<td>Rabbit</td>
<td>P01137, P61812, P10600</td>
<td>7040, 7042, 7043</td>
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Product Usage Information

Application | Dilution |
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Western Blotting | 1:1000 |

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity / Sensitivity

TGF-beta Antibody detects recombinant TGF-β1, TGF-β2, and TGF-β3. The antibody also detects endogenous levels of the TGF-β1 precursor proteins.

Species Reactivity:

Human, Mouse, Rat

Source / Purification

Polyclonal antibodies are produced by immunizing animals with synthetic peptide corresponding to a region in the carboxy terminus of TGF-beta1. Antibodies are purified by protein A and peptide affinity chromatography.

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 latent complexes. Activation occurs by proteolytic release of TGF-β monomers, which dimerize to form the mature TGF-β ligands.


IMPORTANT: For primary antibodies recommended for western blotting applications, we recommend incubating the membrane with diluted antibody at 4°C with gentle shaking overnight. Please refer to the product-specific protocol for our antibody diluent recommendation.