**DESCRIPTION**

**Species Reactivity** Mouse

**Specificity** Detects mouse TGF-β2 in ELISAs and Western blots. In direct ELISAs, 100% cross-reactivity with recombinant human (rh) TGF-β2, 25% cross-reactivity with rhTGF-β3, and no cross-reactivity with recombinant mouse TGF-β1 is observed.

**Source** Monoclonal Rat IgG Clone # 771244

**Purification** Protein A or G purified from hybridoma culture supernatant

**Immunogen** Chinese hamster ovary cell line CHO-derived recombinant mouse TGF-β2 Ala303-Ser414

**Accession #** P27090

**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>Test</th>
<th>Recommended Concentration</th>
<th>Sample</th>
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<tbody>
<tr>
<td>Western Blot</td>
<td>2 µg/mL</td>
<td>See Below</td>
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<tr>
<td>Immunohistochemistry</td>
<td>8-25 µg/mL</td>
<td>See Below</td>
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**DATA**

Detection of Human and Mouse TGF-β2 by Western Blot. Western blot shows lysates of Y-79 human retinoblastoma cell line, HUVEC human umbilical vein endothelial cells, NIH-3T3 mouse embryonic fibroblast cell line, 4T1 mouse breast cancer cell line, and NMuMG mouse mammary gland epithelial cell line. PVDF membrane was probed with 2 µg/mL of Rat Anti-Mouse TGF-β2 Monoclonal Antibody (Catalog # MAB73461) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for TGF-β2 at approximately 52 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**PREPARATION AND STORAGE**

**Reconstitution** Sterile PBS to a final concentration of 0.5 mg/mL

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

*Small pack size (-SP) is supplied 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.

**BACKGROUND**

TGF-β2 (transforming growth factor beta 2) is one of three closely related mammalian members of the large TGF-β superfamily that share a characteristic cysteine knot structure. TGF-β1, -2 and -3 are highly pleiotropic cytokines 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-β2, mice with targeted deletion show defects in development of cardiac, lung, craniofacial, limb, eye, ear and urogenital systems. Mouse TGF-β2 cDNA encodes a 414 amino acid (aa) precursor that contains a 19 aa signal peptide and a 395 aa proprotein. A furin-like convertase processes the proprotein to generate an N-terminal 283 aa latency-associated peptide (LAP) and a C-terminal 112 aa mature TGF-β2. Disulfide-linked homodimers of LAP and TGF-β2 remain non-covalently associated after secretion, forming the small latent TGF-β2 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 mouse TGF-β2 shares 100% aa identity with rat TGF-β2, and 97% aa identity with human, porcine, canine, equine and bovine TGF-β2. It demonstrates cross-species activity. In most cells, TGF-β signaling begins with binding to a complex of the accessory receptor betaglycan (also known as TGF-β RIIR) and a type II ser/thr kinase receptor termed TGF-β RII, which then phosphorylates and activates another ser/thr kinase receptor, TGF-β RI (also called activin receptor-like kinase (ALK)-5), or alternatively, ALK-1. The whole complex phosphorylates and activates Smad proteins that regulate transcription. In bone-related cells, however, TGF-β2 also signals through TGF-β RIIB (a splice variant of TGF-β RII), independently of TGF-β RII. Use of other signaling pathways that are Smad-independent allows for disparate actions observed in response to TGF-β in different contexts.