Mouse TGF-β2 Antibody

Monoclonal Rat IgG_{2B} Clone # 771244

Catalog Number: MAB73461

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_{2B} 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 as a 0.2 μm filtered solution in PBS.

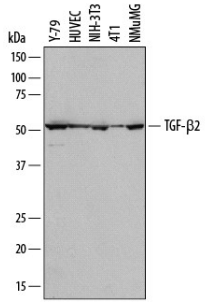
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	2 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below

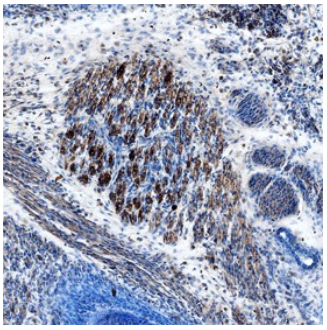
DATA

Western Blot



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.

Immunohistochemistry



TGF-β2 in Mouse Embryo. TGF-β2 was detected in immersion fixed frozen sections of mouse embryo (15 d.p.c.) using Rat Anti-Mouse TGF-β2 Monoclonal Antibody (Catalog # MAB73461) at 25 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Rat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS017) and counterstained with hematoxylin (blue). Specific staining was localized to neuronal processes. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

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 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.

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-β2 signaling begins with binding to a complex of the accessory receptor betaglycan (also known as TGF-β RIII) 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 RIII. Use of other signaling pathways that are Smad-independent allows for disparate actions observed in response to TGF-β in different contexts.