TGF-β2 Antibody

Polyclonal Rabbit IgG

Catalog Number: AB-12-NA

DESCRIPTION

Specificity	Detects TGF-β2 and TGF-β1.2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 2% cross-reactivity with TGF-β3 and TGF-β1 is observed.
Source	Polyclonal Rabbit IgG
Purification	Protein A or G purified
Immunogen	Porcine platelet-derived TGF-β2
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.

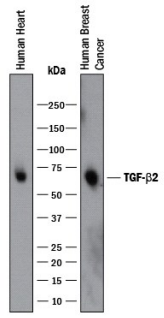
APPLICATIONS

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	0.1 µg/mL	See Below
Simple Western	5 µg/mL	See Below
Neutralization	Measured by its ability to neutralize TGF-β2 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 (ND_{50}) is typically 0.25-1.25 µg/mL in the presence of 1 ng/mL Porcine TGF-β2 and 7.5 ng/mL Recombinant Mouse IL-4.	

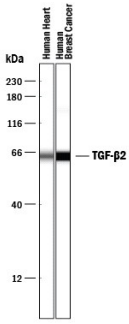
DATA

Western Blot



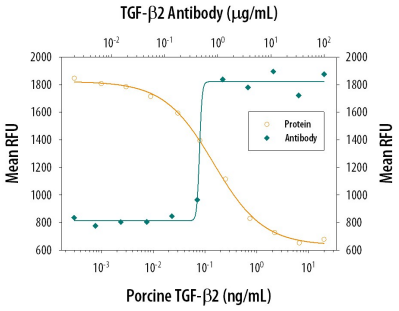
Detection of Human TGF-β2 by Western Blot. Western blot shows lysates of human heart tissue and human breast cancer tissue. PVDF membrane was probed with 0.1 µg/mL of Rabbit Anti-TGF-β2 Polyclonal Antibody (Catalog # AB-12-NA) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for TGF-β2 at approximately 70 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western



Detection of Human TGF-β2 by Simple Western™. Simple Western lane view shows lysates of human heart tissue and human breast cancer tissue, loaded at 0.2 mg/mL. A specific band was detected for TGF-β2 at approximately 64 kDa (as indicated) using 5 µg/mL of Rabbit Anti-TGF-β2 Polyclonal Antibody (Catalog # AB-12-NA). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

Neutralization



TGF-β2 Inhibition of IL-4-dependent Cell Proliferation and Neutralization by TGF-β2 Antibody. Porcine TGF-β2 (Catalog # 102-B2) 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 Porcine TGF-β2 (1 ng/mL) is neutralized (green line) by increasing concentrations of Rabbit Anti-TGF-β2 Polyclonal Antibody (Catalog # AB-12-NA). The ND_{50} is typically 0.25-1.25 µg/mL.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

TGF-β2 Antibody

Polyclonal Rabbit IgG

Catalog Number: AB-12-NA

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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 (1-7). 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 (1-4). 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 (2). Human TGF-β2 cDNA encodes a 414 amino acid (aa) precursor that contains a 19 aa signal peptide and a 395 aa proprotein (8). A furin-like convertase processes the proprotein to generate an N-terminal 232 aa latency-associated peptide (LAP) and a C-terminal 112 aa mature TGF- β2 (8, 9). Disulfide-linked homodimers of LAP and TGF-β2 remain non-covalently associated after secretion, forming the small latent TGF-β1 complex (8-10). 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 (9, 10). TGF-β is activated from latency by pathways that include actions of the protease plasmin, matrix metalloproteases, thrombospondin 1 and a subset of integrins (10). Mature human TGF-β2 shows 100% aa identity with porcine, canine, equine and bovine TGF-β2, and 97% aa identity with mouse and rat TGF-β2. It demonstrates cross-species activity (1). 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. This receptor 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 (3, 11, 12). Use of other signaling pathways that are Smad-independent allows for disparate actions observed in response to TGF-β in different contexts (11).

References:

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bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956