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Mouse Anti-Human TGF-β Monoclonal Antibody Datasheet

Product Name: mAb anti-Human TGF-β		Clone No.: TB21	
Catalogue No.: MO-C40009A		Quantity: 0.5 mg/vial	
Description:	Mouse monoclonal antibody to human Transforming Growth Factor beta (TGF- $\beta)$	Background:	Transforming growth factor beta (TGF- β) has three isoforms (TGF-β1, TGF-β2, and TGF-β3) with similar functions.
Purification:	Protein G affinity purified		The cytokine is a homodimer linked by disulfide bind lineide cells, the
Product Type:	Primary antibody		cytokine forms a small latent complex
Target Protein:	Human TGF-β		with latent associated peptide (LAP). This small complex binds to latent TGF-
Immunogen:	TGF- β from human platelets		β binding protein (LTBP) to be secreted to extra-cellular matrix. Disassociation
Fusion Myeloma:	Sp2/0-Ag14		of the latent proteins from TGF- β results in the release of the cytokine to its receptor. The process is called
Specificity:	Western blotting demonstrated that this antibody reacts with the dimeric (25 kDa) and monomeric (12.5 kDa.) forms of TGF- β under both non-reducing and reducing conditions respectively. This antibody recognizes both human		activation, which can be influenced by various factors, including proteases, metalloproteases, extreme pH, mild acidic condition, reactive oxygen species and integrins.
	platelet-derived and recombinant TGF- β in ELISA.		TGF- β is an anti-proliferation factor in normal cells. It increases the synthesis
Species Reactivity:	Human, others not tested		of p15 and p21, which can block the cyclin: CDK complex, and causes cells to stop at G1 phase. The cytokine can
Host / Isotype:	Mouse, IgG1 Kappa		induce apoptosis through both SMAD and DAXX pathways. In cancer cells,
Formulation:	Lyophilized in 0.01M PBS, pH 7.0.		TGF-β signaling is altered and TGF-β no longer stops cell proliferation.
Reconstitution:	Double distilled water is recommended and to adjust the final concentration to 1.00mg/mL.	Applications:	Neutralizing: This antibody neutralizes TGF- β activity <i>in vitro</i> and <i>in vivo</i> . In an inhibition assay of CCI /64 cell
Storage:	Store at -20°C		growth and in a NRK-49F colony
Research	Growth Factors and Their Receptors,		nonting assay, the antibody
Area:	Angiogenesis		effect of micro-injection of this
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Page 1 of 2 page(s)

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antibody into one blastomere of two cell stage Xenopus embryos indicated that it was also able to neutralize the bioactivity of TGF- β *in vivo*.

IHC: This antibody has been used to demonstrate TGF- β in ovine ovarian tissue and human breast carcinoma at a dilution of 1:1000. As a consequence of the intense staining of the erythrocytes, it is possible to locate a single cell within the ovarian stroma, making it useful in locating very fine capillary networks within tissue.

Western Blot: The following figure shows the Western blot result of the antibody used at $2\mu g/mL$ to detect platelet derived TGF- β at $12\mu g/lane$ (lane 2) $6\mu g/lane$ (lane 3), $3\mu g/lane$ (lane 4) and $1\mu g/mL$ (lane 5) with 4chlorol-napthol as substrate. The bottom band is the 12.5KD TGF- β monomer, the mid-band is the 25KD TGF- β dimer and the up band is TGF- β with signal peptide. Lane 1 is molecular weight markers.



In another Western Blot experiment the antibody used at 5-20ng/mL, detected TGF- β at 200ng/lane.

References:

1. Shi WK, Ye QW, Bao LP. <u>Biological</u> <u>characterization of a monoclonal</u> <u>antibody TB21 against human</u> <u>transforming growth factor-beta 1.</u> Acta Biologiae Experimentalis Sinica Vol. 26, No. 2 June (1993).

2. Toshio Nishiyam et al. <u>Type XI1 and</u> <u>XIV Collagens Mediate Interactions</u> <u>Between Banded Collagen Fibers in</u> <u>Vitro and May Modulate Extracellular</u> <u>Matrix Deformabili.</u> J. Biol. Chem. November 11, pp. 28193-28199,1994

3. Crawford, S. E. <u>Thrombospondin-1</u> is a major activator of TGF-beta1 in vivo. Cell 93:1159-1170 (1998).

4. Roberta Mortarini et al. <u>Impaired</u> <u>STAT Phosphorylation in T Cells from</u> <u>Melanoma Patients in Response to IL-</u> <u>2: Association with Clinical Stage.</u> Clin Cancer Res June 15, 2009 15; 4085-94.

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Page 2 of 2 page(s)

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