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Mouse Anti-Human TGF-β Monoclonal Antibody Datasheet

Product Name: mAb anti-Human TGF-β | **Clone No.: 8C4**

Catalogue No.: MO-C40009F | **Quantity: 0.5 mg/vial**

Description: Mouse monoclonal antibody to human Transforming Growth Factor beta (TGF-β)

Purification: Protein G affinity purified

Product Type: Primary antibody

Target Protein: Human TGF-β

Immunogen: TGF-β from human platelets

Fusion Myeloma: Sp2/0-Ag14

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 platelet-derived and recombinant TGF-β in ELISA.

Species Reactivity: Human, others not tested

Host / Isotype: Mouse, IgG1 Kappa

Formulation: Lyophilized in 0.01M PBS, pH 7.0.

Reconstitution: Double distilled water is recommended and to adjust the final concentration to 1.00mg/mL.

Storage: Store at -20°C

Research Area: Growth Factors and Their Receptors, Angiogenesis

Background: Transforming growth factor beta (TGF-β) has three isoforms (TGF-β1, TGF-β2, and TGF-β3) with similar functions.

The cytokine is a homodimer linked by disulfide bind. Inside cells, the cytokine forms a small latent complex with latent associated peptide (LAP). This small complex binds to latent TGF-β binding protein (LTBP) to be secreted to extra-cellular matrix. Disassociation of the latent proteins from TGF-β results in the release of the cytokine to its receptor. The process is called activation, which can be influenced by various factors, including proteases, metalloproteases, extreme pH, mild acidic condition, reactive oxygen species and integrins.

TGF-β is an anti-proliferation factor in normal cells. It increases the synthesis of p15 and p21, which can block the cyclin: CDK complex, and causes cells to stop at G1 phase. The cytokine can induce apoptosis through both SMAD and DAXX pathways. In cancer cells, TGF-β signaling is altered and TGF-β no longer stops cell proliferation.

Applications:

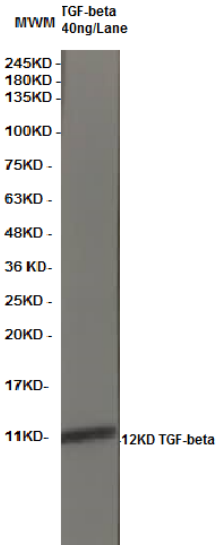
ELISA: The antibody reacts with human platelet derived TGF-β.

IHC: Can be used in immunohistochemcal applications.

Neutralizing: This antibody neutralizes TGF-β activity *in vitro* and *in vivo.* In an inhibition assay of CCL/64 cell growth and in a NRK-49F colony forming assay, the antibody neutralized TGF-β bioactivities. The effect of micro-injection of this 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*.

Western Blotting: The image below shows that 40ng/lane of human platelet derived TGF-beta was detected by anti-TGF-beta mAb clone 8C4 on Western Blot. The blot was blocked with 1%BSA 5%sucrose in PBS

overnight after electrical transfer. Clone 8C4 was diluted to 1μg/ml with PBS-T and incubated with blot for 2 hours. The blot was washed 5 times with PBS-T and incubated with a 1:1000 diluted anti-mouse IgG HRP conjugate for 1 hour. HRP substrate 4-Chloro-1-naphthol and H_2O_2 was used to stain the blot directly..



References: If research is published using this product, please inform Anogen in order to cite the reference on this datasheet. Anogen will provide one unit of product in the same category as gratitude.