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Product Information

Anti-Transforming Growth Factor-β3
produced in goat, affinity isolated antibody

Catalog Number **T4692**

Product Description

Anti-Transforming Growth Factor-β3 is produced in goat with purified recombinant chicken TGF-β3 expressed in *Sf* 21 insect cells as immunogen. The antibody is purified using human TGF-β3 affinity chromatography.

Anti-Transforming Growth Factor-β3 (TGF-β3) will recognize human and chicken TGF-β3 by various immunochemical techniques including neutralization, immunoblotting, and ELISA. By immunoblotting (non-reducing conditions) and ELISA, the antibody shows less than 25 % cross-reactivity with recombinant amphibian TGF-β5 and less than 10 % cross-reactivity with TGF-β1, TGF-β1.2, and TGF-β2. This antibody also shows less than 5 % cross-reactivity with recombinant human LAP (latency associated peptide,TGF-β1).

Transforming Growth Factor-β5 (TGF-β5) is a member of the TGF-β family of growth factors. The TGF-β polypeptides are multifunctional; capable of influencing cell proliferation, differentiation, and other functions in a wide range of cell types. Transformed, as well as non-neoplastic tissues, release transforming growth factors; and essentially all mammalian cells possess a specific TGF receptor.[1] The multi-modal nature of TGF-β is seen in its ability to stimulate or inhibit cellular proliferation. In general, cells of mesenchymal origin appear to be stimulated by TGF-β whereas cells of epithelial or neuroectodermal origin are inhibited by the peptide.[2, 3]

A high level of TGF-β3 in normal adult heart, lung, and brain suggests a possible role for this factor in the regulation of a variety of normal physiological functions. The expression of TGF-β3 in different locations and at specific stages of embryogenesis suggests its involvement in the regulation of development. Similar to the other isoforms of TGF-β, the upregulated activation of TGF-β3 might also be involved in a variety of pathological conditions. TGF-β3 has been detected in human, porcine, and avian sources and is expressed in cells of mesenchymal origin, suggesting a different role for this protein than for TGF-β1 or TGF-β2. TGF-β3 is less prevalent in natural expression than either TGF-β1 or TGF-β2, but is the most abundant mRNA expressed in chick embryos.[4] It is also expressed in human umbilical cord and in several human carcinoma cells.

Reagent

Supplied lyophilized from a 0.2 μm filtered solution of phosphate buffered saline with 5% trehalose.

Preparation Instructions

To one vial of lyophilized powder, add 0.5 mL of 0.2 μm-filtered phosphate buffered saline (PBS) to produce a 0.2 mg/ml stock solution of Anti-TGF-β3.

Storage/Stability

Prior to reconstitution, store at –20 °C. Reconstituted product may be stored at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at –20 °C. Avoid repeated freezing and thawing. Do not store in frost-free freezer.

Product Profile

The Neutralization $Dose_{50}$ (ND_{50}) for Anti-TGF-β3 is 0.01-0.05 μg/ml in the presence of 0.1 ng/mL recombinant human TGF-β3 and 7.5 ng/mL recombinant mouse IL-4, using the human HT-29 colon adenocarcinoma cell line.

The ND_{50} of this antibody is defined as the concentration of antibody resulting in a one-half maximal inhibition of bioactivity of TGF-β3 that is present at a concentration just high enough to elicit a maximum response.

The exact concentration of antibody required to neutralize TGF-β3 activity is dependent on the cytokine concentration, cell type, growth conditions, and the type of activity studied.

Immunoblotting: a working concentration of 0.1 μg/mL antibody is recommended.

Immunohistochemistry: a working concentration of 5-15 μg/mL antibody is recommended. The detection limit for TGF-β3 is ~0.6 ng/well.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilutions by titration test.

Endotoxin level is < 0.10 EU/μg antibody as determined by the LAL (Limulus amebocyte lysate) method.

References

1. Sporn, M., et al., *Science*, **233**, 532 (1986).
2. Moses, H., et al., Cancer Cells, Vol. 3, Feramisco, J., et al., (eds.), Cold Spring Harbor, New York (1985).
3. Hayashi, I., and Carr, B., J. Cell Physiology, **125**, 82 (1985).
4. Roberts, A., and Sporn, J., Peptide Growth Factors and their Receptors I, Sporn M., and Roberts, A., (eds.), Springer-Verlag, New York (1991).

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