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Product Information

Anti-Transforming Growth Factor-β2
produced in goat, affinity isolated antibody

Catalog Number **T4442**

Product Description

Anti-Transforming Growth Factor-β2 (TGF-β2) is produced in goat using as immunogen purified porcine TGF-β2. The antibody is purified using human TGF-β2 affinity chromatography.

Anti-Transforming Growth Factor-β2 will recognize human and porcine TGF-β2 and TGF-β1.2 by various immunochemical techniques, including neutralization, immunoblotting, ELISA, and immunohistochemistry. By immunoblotting (non-reducing conditions) and ELISA, the antibody shows less than 2% cross-reactivity with TGF-β1, TGF-β3, and TGF-β5.

Transforming Growth Factor-β2 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 tissues, as well as non-neoplastic tissues, release transforming growth factors; and essentially all mammalian cells possess a specific TGF receptor.[1] The multimodal 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] TGF-β1, TGF-β2, and TGF-β1.2 appear to be equivalent in biological activity, although there does appear to be differences in binding to certain types of receptors.

TGF-β2 is produced by many cell types and has been found in the highest concentration in porcine platelets and mammalian bone. Latent TGF-β2 is the prominent isoform found in body fluids such as amniotic fluid, breast milk, and the aqueous and vitreous humors of the eye.[4]

Reagent

Lyophilized from 0.2 μm-filtered solution in phosphate buffered saline containing carbohydrates.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

To one vial of lyophilized powder, add 1 mL of 0.2 μm filtered phosphate buffered saline to produce a 0.1 mg/mL stock solution of antibody.

Storage/Stability

Prior to reconstitution, store at −20 °C. Reconstituted product may be stored at 2 to 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 freezers.

Product Profile

The antibody neutralizes the bioactivity of TGF-β2 by inhibiting cell proliferation using the IL-4 dependent murine HT-2 cell line.[5] In this bioassay, porcine TGF-β2 (1.0 ng/mL) is preincubated with various concentrations of the antibody (0.0001 to 1.0 ng/mL) for 1 hour at 37 °C in a 96 well plate. Following this pre-incubation, HT-2 cells are added to each well. The total volume of 100 μL, containing antibody at various concentrations, porcine TGF-β2 at 1.0 ng/mL, recombinant mouse IL-4 at 7.5 ng/mL, and HT-2 cells at 1×10^5 cells/mL, is incubated for 48 hours at 37 °C in a 5% CO_2 humidified incubator and pulsed with ^{3}H-thymidine during the final four hours. Cells are harvested onto glass fiber filters and the ^{3}H-thymidine incorporated into DNA is measured.

The ND_{50} of this antibody is defined as the concentration of antibody resulting in a one-half maximal inhibition of bioactivity of TGF-β2 that is present at a concentration just high enough to elicit a maximum response.

The exact concentration of antibody required to neutralize TGF-β2 activity is dependent on the cytokine concentration, cell type, growth conditions, and the type of activity studied.

Immunoblotting: a working antibody concentration of 0.1-0.2 μg/mL is recommended. The detection limit for TGF-β2 and TGF-β1.2 is ~5 ng/lane and 25 ng/lane under non-reducing and reducing conditions, respectively.

Immunohistochemistry: a working concentration of 5-15 μg/mL is recommended for paraffin-embedded human tissue sections.

Note: In order to obtain the best results in various techniques and preparations, determination of optimal working dilutions by titration test is recommended.

Endotoxin level is <0.1 EU (endotoxin units) per 1 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.B. and Sporn, M.B., *Mol. Reprod. Dev*., **32**, 91 (1992).
5. Tsang, M., et al., *Lymphokine Res*., **9**, 607 (1990).

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