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#3715

Pro-TGF-alpha Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M	Endogenous	17	Rabbit	#P01135	7039

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Pro-TGF-alpha Antibody detects endogenous levels TGF-alpha precursor protein but not mature TGF-alpha. It does not cross-react with other family members at physiological levels.

Species predicted to react based on 100% sequence homology

Rat

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the amino-terminal sequence of TGF-alpha. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Transforming growth factor alpha (TGF-alpha) is a member of the epidermal growth factor (EGF) family, sharing the same receptor, EGFR, and regulating cell proliferation, survival, and differentiation (1). Members of the family share an EGF-like domain of 45-60 amino acids characterized by the conservation of six regularly spaced cysteines, forming three disulfide bonds that function as their receptor binding domain. TGF-alpha was initially discovered in the media of retrovirally transformed fibroblasts, and its name comes from its ability to induce transformation in cultured fibroblasts (2). This transforming activity was later shown to require TGF-beta, which potentiates the activity of TGF-alpha through a separate receptor (3). Soluble TGF-alpha is released from its membrane-bound precursor, pro-TGF-alpha, following proteolytic cleavage, but the membrane bound precursor is still able to bind and activate EGFR (4). Binding of soluble or membrane bound TGF-alpha to EGFR leads to receptor dimerization, tyrosine autophosphorylation, and activation of downstream signaling components. TGF-alpha and related peptides play an important role in the progression of cancer as well as in neuropathological processes (5,6).

Background References

1. Derynck, R. (1986) *J Cell Biochem* 32, 293-304.
2. de Larco, J.E. and Todaro, G.J. (1978) *Proc Natl Acad Sci U S A* 75, 4001-5.
3. Roberts, A.B. et al. (1981) *Proc Natl Acad Sci U S A* 78, 5339-43.
4. Wong, S.T. et al. (1989) *Cell* 56, 495-506.
5. Rusch, V. et al. (1996) *Cytokine Growth Factor Rev* 7, 133-41.
6. Junier, M.P. (2000) *Prog Neurobiol* 62, 443-73.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse

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