

# Phospho-ALK (Tyr1586) Antibody

✓ 100 µl  
(10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H	80 kDa (NPM-ALK.), 220 kDa (ALK.)	Rabbit**

**Background:** Anaplastic lymphoma kinase (ALK) is a tyrosine kinase receptor for pleiotrophin (PTN), a growth factor involved in embryonic brain development (1-3). In ALK-expressing cells, PTN induces phosphorylation of both ALK and the downstream effectors IRS-1, Shc, PLCγ and PI3 kinase (1). ALK was originally discovered as an NPM (nucleophosmin)-ALK fusion protein produced by a translocation (4). The NPM-ALK fusion protein is a constitutively active, oncogenic tyrosine kinase associated with anaplastic lymphoma (4). Activation of PLCγ by NPM-ALK has been suggested to be a crucial step for its mitogenic activity and may be important in the pathogenesis of anaplastic lymphomas (5).

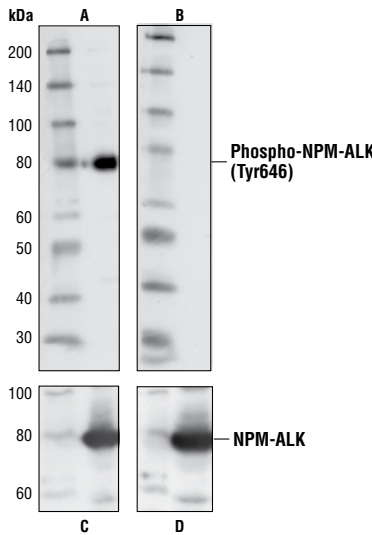
A distinct ALK oncogenic fusion protein involving ALK and EML4 has been described from a non-small cell lung cancer cell line, with corresponding fusion transcripts present in some cases of lung adenocarcinoma. The short, amino-terminal region of the microtubule-associated protein EML4 is fused to the kinase domain of ALK (6,7).

**Specificity/Sensitivity:** Phospho-ALK (Tyr1586) Antibody detects ALK only when phosphorylated at tyrosine 1586 (equivalent to Tyr646 of NPM-ALK).

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide (KLH-coupled) corresponding to residues surrounding Tyr1586 of human ALK. Antibodies are purified by protein A and peptide affinity chromatography.

**Background References:**

- (1) Stoica, G.E. et al. (2001) *J Biol Chem* 276, 16772-9.
- (2) Iwahara, T. et al. (1997) *Oncogene* 14, 439-49.
- (3) Morris, S.W. et al. (1997) *Oncogene* 14, 2175-88.
- (4) Morris, S.W. et al. (1994) *Science* 263, 1281-4.
- (5) Bai, R.Y. et al. (1998) *Mol Cell Biol* 18, 6951-61.
- (6) Rikova, K. et al. (2007) *Cell* 131, 1190-203.
- (7) Takeuchi, K. et al. (2008) *Clin Cancer Res* 14, 6618-24.



Western blot analysis of extracts from Sup-M2 cells using Phospho-ALK (Tyr1586) Antibody (A,B) or ALK Antibody (C,D). The phospho-specificity of the antibody was characterized by treating the membrane with calf intestinal alkaline phosphatase (CIP) (B,D) after western transfer.

Entrez-Gene ID #238  
Swiss-Prot Acc. #Q9UM73

**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.

\*Species cross-reactivity is determined by western blot.

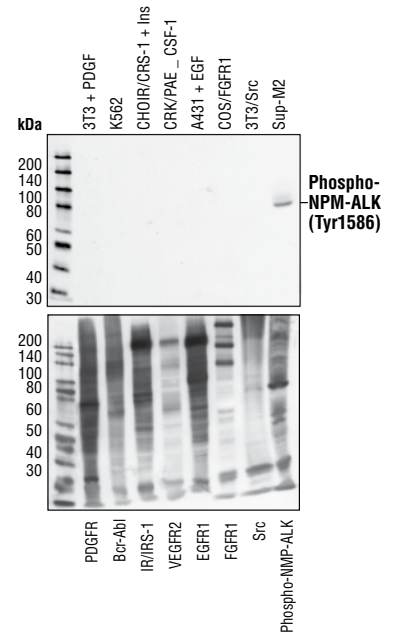
\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**

Western Blotting 1:1000

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.



Western blot analysis of extracts from various cells expressing different activated tyrosine kinases, using Phospho-ALK (Tyr1586) Antibody (upper) or Phospho-Tyrosine mAb (P-Tyr-100) #9411 (lower). Phospho-ALK (Tyr1586) Antibody shows no cross-reactivity with other tyrosine-phosphorylated tyrosine kinases.

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

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.