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#41039

ALK (D5F3®) XP® Rabbit mAb (Alexa Fluor® 700 Conjugate)



Cell Signaling
TECHNOLOGY®

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Entrez-Gene ID #238
UniProt ID #Q9UM73

New 03/17

For Research Use Only. Not For Use In Diagnostic Procedures.

Applications
F
Endogenous

Species Cross-Reactivity
H

Isotype
Rabbit mAb

Description: This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 700 fluorescent dye and tested in-house for direct flow cytometric analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated ALK (D5F3®) XP® Rabbit mAb #3633.

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 a nucleophosmin (NPM)-ALK fusion protein produced by a translocation (4). Investigators have found that the NPM-ALK fusion protein is a constitutively active, oncogenic tyrosine kinase associated with anaplastic lymphoma (4). Research literature suggests that activation of PLCγ by NPM-ALK may be a crucial step for its mitogenic activity and involved in the pathogenesis of anaplastic lymphomas (5).

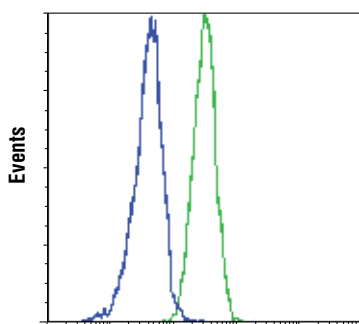
A distinct ALK oncogenic fusion protein involving ALK and echinoderm microtubule-associated protein like 4 (EML4) has been described in the research literature from a non-small cell lung cancer (NSCLC) cell line, with corresponding fusion transcripts present in some cases of lung adenocarcinoma. The short, amino-terminal region of the microtubule-associated protein EML4 is fused to the kinase domain of ALK (6-8).

Specificity/Sensitivity: ALK (D5F3®) XP® Rabbit mAb (Alexa Fluor® 700 Conjugate) detects endogenous levels of total ALK protein as well as ALK fusion proteins, such as EML4-ALK variants and NPM-ALK, even at low levels. This antibody does not cross-react with other family members.

Source/Purification: Monoclonal antibody is produced by immunizing animals with recombinant protein corresponding to residues in the carboxy terminus of human ALK.

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.
- (8) Soda, M. et al. (2007) *Nature* 448, 561-6.



Flow cytometric analysis of TF-1 cells (blue) and KARPAS-299 cells (green) using ALK (D5F3®) XP® Rabbit mAb (Alexa Fluor® 700 Conjugate). Cell Line Source: Dr Abraham Karpas at the University of Cambridge.

Storage: Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Recommended Antibody Dilutions:

Flow Cytometry 1:50

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: 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.