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# #41039 Store at +4°C **ALK (D5F3<sup>®</sup>) XP<sup>®</sup> Rabbit mAb (Alexa Fluor<sup>®</sup> 700 Conjugate)**

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

| Applications:                    | Reactivity:  | Sensitivity: | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|----------------------------------|--|--------------|-----------------|-------------|-----------------|
| FC-FP                            | H  | Endogenous   | Rabbit IgG      | #Q9UM73     | 238             |
| <b>Product Usage Information</b> | <b>Application</b>   |              |                 |             | <b>Dilution</b> |
|                                  | Flow Cytometry (Fixed/Permeabilized)   |              |                 |             | 1:50            |
| <b>Storage</b>                   | 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.   |              |                 |             |                 |
| <b>Specificity/Sensitivity</b>   | ALK (D5F3 <sup>®</sup> ) XP <sup>®</sup> Rabbit mAb (Alexa Fluor <sup>®</sup> 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.   |              |                 |             |                 |
| <b>Source / Purification</b>     | Monoclonal antibody is produced by immunizing animals with recombinant protein corresponding to residues in the carboxy terminus of human ALK.   |              |                 |             |                 |
| <b>Description</b>               | This Cell Signaling Technology antibody is conjugated to Alexa Fluor <sup>®</sup> 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 <sup>®</sup> ) XP <sup>®</sup> Rabbit mAb #3633.  |              |                 |             |                 |
| <b>Background</b>                | <p>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).</p> <p>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).</p> |              |                 |             |                 |
| <b>Background References</b>     | <ol style="list-style-type: none"> <li>1. Stoica, G.E. et al. (2001) <i>J Biol Chem</i> 276, 16772-9.</li> <li>2. Iwahara, T. et al. (1997) <i>Oncogene</i> 14, 439-49.</li> <li>3. Morris, S.W. et al. (1997) <i>Oncogene</i> 14, 2175-88.</li> <li>4. Morris, S.W. et al. (1994) <i>Science</i> 263, 1281-4.</li> <li>5. Bai, R.Y. et al. (1998) <i>Mol Cell Biol</i> 18, 6951-61.</li> <li>6. Rikova, K. et al. (2007) <i>Cell</i> 131, 1190-203.</li> <li>7. Takeuchi, K. et al. (2008) <i>Clin Cancer Res</i> 14, 6618-24.</li> <li>8. Soda, M. et al. (2007) <i>Nature</i> 448, 561-6.</li> </ol>  |              |                 |             |                 |

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

**Applications Key** **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

**Cross-Reactivity Key** **H:** Human

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KARPAS cell line source: Dr. Abraham Karpas at the University of Cambridge.

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