

### 30-1471: Anti-ZAP-70 Monoclonal Antibody (Clone:1E7.2)(Discontinued)

|                                |  |
|--------------------------------|--|
| <b>Clonality :</b>             | Monoclonal   |
| <b>Clone Name :</b>            | 1E7.2  |
| <b>Application :</b>           | FACS   |
| <b>Reactivity :</b>            | Human  |
| <b>Gene :</b>                  | ZAP70  |
| <b>Gene ID :</b>               | 7535   |
| <b>Uniprot ID :</b>            | P43403   |
| <b>Format :</b>                | Purified   |
| <b>Alternative Name :</b>      | ZAP70,SRK  |
| <b>Isotype :</b>               | Mouse IgG1   |
| <b>Immunogen Information :</b> | A KLH-coupled peptide corresponding to amino acids 282-307 of human ZAP-70 |

#### Description

The ZAP-70 (zeta-associated protein of 70 kDa) tyrosine kinase was identified as a tyrosine phosphoprotein that associates with TCR zeta subunit and undergoes tyrosine phosphorylation following TCR stimulation. ZAP-70 is a Syk family tyrosine kinase primarily expressed in T and NK cells that plays an essential role in signaling through the TCR. TCR-mediated activation of T cells is crucial to the immune response. In humans, ZAP-70 gene mutations resulting in lower ZAP-70 protein expression levels or expression of catalytically inactive ZAP-70 proteins, have been identified. ZAP-70 deficiency results in the absence of mature CD8+ T cells and the prevention of TCR-mediated activation of CD4+ T cells, and it can lead to severe combined immunodeficiency. In patients with chronic lymphocytic leukemia (B-CLL), ZAP-70 expression on B cell was shown to be correlated with disease progression and survival. ZAP-70 contains two N-terminal SH2 domains (Src homology domain 2) and a C-terminal kinase domain. During T cell activation, the binding of ZAP-70 SH2 domains to the phosphorylated zeta subunit on the activated TCR complex causes a colocalization with the Lck tyrosine kinase that phosphorylates ZAP-70 on Tyr493 in the activation loop. ZAP-70 autophosphorylates multiple tyrosines in the region between the SH2 domains and the kinase domain, including the binding sites for additional SH2-containing signaling proteins such as SLP76, LAT, Lck, PLCgamma1, Vav, Shc, Ras-GAP, and Abl. ZAP-70-mediated activation of these downstream effectors leads to the release of intracellular calcium stores, and the transcription of interleukin-2 and other genes important for an immune response.

#### Product Info

|                            |   |
|----------------------------|---|
| <b>Amount :</b>            | 0.1 mg  |
| <b>Purification :</b>      | Purified by protein-A affinity chromatography |
| <b>Storage condition :</b> | Store at 2-8°C. Do not freeze.                |

#### Application Note

**Flow Cytometry** *Recommended dilution for purified antibody:* 1 µg/ml