

## Product Information

### ZAP-70 Tyrosine Kinase, Histidine-tagged, Human recombinant, expressed in insect cells

Catalog Number **Z2126**

Storage Temperature  $-70^{\circ}\text{C}$

#### Product Description

ZAP-70 is protein tyrosine kinase of the Syk family that is localized exclusively to the cytosol of T cells and natural killer cells. It is required for T cell activation.<sup>1</sup> ZAP-70 is activated by Lck-mediated phosphorylation of its tyrosine residues.<sup>2</sup> Mutant T cell lines have been used as model systems for elucidating the functional characterization of ZAP-70 in T cell antigen receptor signaling pathways, and in studying the attenuation or enhancement of function resulting from phosphorylation of its tyrosine residues.<sup>3,4</sup> ZAP-70 tyrosine kinase has been used to map the phosphorylation sites on LAT (linker for activation of T cells) to determine how phosphorylation is involved in the activation of signaling proteins in T cells.<sup>5</sup> Mutation of the gene resulting in defective ZAP-70 results in SCID (severe combined immunodeficiency) syndrome.<sup>6</sup> Differences in the regulation of Syk and ZAP-70 suggest each has a distinct role in immunoreceptor signaling.<sup>7</sup>

This human recombinant ZAP-70 Tyrosine Kinase, histidine-tagged, is the full-length 70 kDa protein with a histidine tag expressed in baculovirus infected insect cells.

Human recombinant ZAP-70 is supplied in a solution of 25 mM HEPES, pH 7.5, containing 150 mM NaCl, 0.5 mM DTT, and 50% glycerol.

Phosphorylation activity: >150 units/mg protein

Unit definition: One unit will phosphorylate 1 nmole of polyglutamic acid:tyrosine (poly[Glu:Tyr] 4:1 (E<sub>4</sub>Y)) per minute at 37 °C at pH 7.0.

Purity: ≥90% (SDS-PAGE)

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

#### Storage/Stability

Store the product at  $-70^{\circ}\text{C}$ . It remains active for at least one year when stored at  $-70^{\circ}\text{C}$ . After thawing, stored at  $-20^{\circ}\text{C}$ . Avoid repeated freeze-thaw cycles.

#### References

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3. Abraham, R.T., Immunol. Res., **22**, 95-117 (2001).
4. Magnan, A. et al., J. Exp. Med., **194**, 491-505 (2001).
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6. Elder, M.E. et al., J. Immunol., **166**, 656-661 (2001).
7. Latour, S. et al., Curr. Opin. Immunol., **13**, 299-306 (2001).

RC,AGW,MAM 10/14-1