

## DESCRIPTION

<b>Species Reactivity</b>	Human/Mouse/Rat/ <i>Xenopus</i> /Zebrafish
<b>Specificity</b>	Human, mouse, rat, zebrafish, and <i>Xenopus</i> ~120 kDa PLKK
<b>Source</b>	Polyclonal Rabbit IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Phosphopeptide corresponding to amino acid residues surrounding the phospho-S482/486/490 of <i>Xenopus</i> PLKK
<b>Formulation</b>	100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA and 50% glycerol. See Certificate of Analysis for details.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1:1000 dilution	<i>Xenopus</i> lysates

## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	For long-term storage, ≤ -20° C is recommended. Product is stable at ≤ -20° C for at least 1 year.

## BACKGROUND

*Xenopus* Polo-Like Kinase Kinase (xPLKK1) is a 120 kDa Ser/Thr kinase that is associated with 67 kDa PLx1 (Polo-Like *Xenopus* Kinase 1). PLx1 is involved with spindle assembly and centrosome maturation during the late G2 and M cell cycle phase. A cell's entry into mitosis is controlled by the activation of Cyclin B/cdc2. cdc2 is constitutively phosphorylated and inactive, and activated by dephosphorylation of Tyr at position 15. The phosphatase that accomplishes this is cdc25C, which is activated by phosphorylation at multiple sites by a polo-like kinase termed PLx1 (PLK1 in mammals). The activating enzyme that acts on PLx1 is under investigation, and the kinase termed xPLKK1 has been identified as a candidate. xPLKK1 is 950 amino acids (aa) in size and contains a 264 amino acid kinase domain (aa 31 - 294). It contains three serines within a nine amino acid span (S482/486/490) which, when phosphorylated, activate the enzyme. Activation of PLx1 appears to depend on the phosphorylation of T201. And while xPLKK1 phosphorylates PLx1, it does so only on T10. Thus, its role in PLx1 activation is unclear. Notably, PLx1 has been shown to activate xPLKK1 on S482/486/490, suggesting that xPLKK1 may actually be a downstream target of PLx1 rather than an activator of PLx1.

## References:

1. Lowery, D.M. et al. (2004) Cell Cycle 3:128.
2. Erickson, E. et al. (2004) J. Biol. Chem. 279:32219.
3. Qian, Y-W. et al. (1998) Science 282:1701.
4. Kelm, O. et al. (2002) J. Biol. Chem. 277:25247.