

Polo-like Kinase Antibody Sampler Kit

Cat# AK0246

Upon receipt, store at -20°C. Avoid freeze/thaw cycles.

PRODUCT DESCRIPTION

At least four distinct polo-like kinases exist in mammalian cells: PLK1, PLK2, PLK3, and PLK4/SAK. PLK1 apparently plays many roles during mitosis, particularly in regulating mitotic entry and exit. The mitosis promoting factor (MPF), cdc2/cyclin B1, is activated by dephosphorylation of cdc2 (Thr14/Tyr15) by cdc25C. PLK1 phosphorylates cdc25C at Ser198 and cyclin B1 at Ser133 causing translocation of these proteins from the cytoplasm to the nucleus. PLK1 phosphorylation of Myt1 at Ser426 and Thr495 has been proposed to inactivate Myt1, one of the kinases known to phosphorylate cdc2 at Thr14/Tyr15. Polo-like kinases also phosphorylate the cohesin subunit SCC1, causing cohesin displacement from chromosome arms that allow for proper cohesin localization to centromeres. Mitotic exit requires activation of the anaphase promoting complex (APC), a ubiquitin ligase responsible for removal of cohesin at centromeres, and degradation of securin, cyclin A, cyclin B1, Aurora A, and cdc20. PLK1 phosphorylation of the APC subunits Apc1, cdc16, and cdc27 has been demonstrated in vitro and has been proposed as a mechanism by which mitotic exit is regulated. Substitution of Thr210 with Asp has been reported to elevate PLK1 kinase activity and delay/arrest cells in mitosis, while a Ser137Asp substitution leads to S-phase arrest. In addition, while DNA damage has been found to inhibit PLK1 kinase activity, the Thr210Asp mutant is resistant to this inhibition. PLK1 has been reported to be phosphorylated in vivo at Ser137 and Thr210 in mitosis; DNA damage prevents phosphorylation at these sites.

PRODUCT INCLUDES

Cat No.	Product name	Quantity	Applications	Reactivity	Host
A340707	Plk1 Polyclonal Antibody	20µL	WB, ELISA	Human, Mouse, Rat	Rabbit
A340523	Fnk Polyclonal Antibody	20µL	WB, ELISA	Human, Mouse, Rat	Rabbit
A1013s	Goat Anti-Rabbit IgG (H+L) (peroxidase/HRP conjugated)	120µL	WB, ELISA	Rabbit	Goat

PRODUCT USE LIMITATION

These products are intended for research use only.