ARG52396
anti-PLK1 phospho (Thr210) antibody

Package: 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes PLK1 phospho (Thr210)
Tested Reactivity	Hu, Rat
Predict Reactivity	Ms, Bov, Dog, NHuPrm, Xenopus laevis, Zfsh
Tested Application	WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	PLK1
Species	Human
Immunogen	Synthetic phospho-peptide corresponding to amino acid residues surrounding Thr210 conjugated to KLH
Conjugation	Un-conjugated
Alternate Names	STPK13; Serine/threonine-protein kinase PLK1; EC 2.7.11.21; Serine/threonine-protein kinase 13; Polo-like kinase 1; PLK-1; PLK

Application Instructions

Application table

Application	Dilution
WB	1:1000

Application Note: Specific for ~66k PLK phosphorylated at Thr 210. Immunolabeling of the PLK band is completely blocked by λ-phosphatase treatment.
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

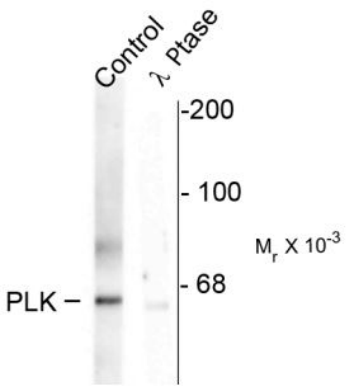
Properties

Form	Liquid
Purification	Affinity Purified
Buffer	10 mM HEPES (pH 7.5), 150 mM NaCl, 0.1 mg/ml BSA and 50% Glycerol
Stabilizer	0.1 mg/ml BSA, 50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Database links	GeneID: 25515 Rat GeneID: 5347 Human Swiss-port # P53350 Human Swiss-port # Q62673 Rat
Gene Symbol	PLK1
Gene Full Name	polo-like kinase 1
Background	Polo-like kinases are important regulators of cell cycle progression. PLK1 is a highly conserved Ser/Thr kinase that has essential roles in the formation of mitotic bipolar spindles (van Vugt et al., 2004). Deregulated expression of PLK's is detected in many types of cancer and associated with oncogenesis (Takei et al., 2005). It has been proposed that PLK1 function is altered at different stages of mitosis through consecutive phosphorylation events at Ser137 and Thr210 (van de Weerdt et al., 2005).
Research Area	Cancer antibody; Cell Biology and Cellular Response antibody; Gene Regulation antibody
Calculated Mw	68 kDa
PTM	Catalytic activity is enhanced by phosphorylation of Thr-210. Phosphorylation at Thr-210 is first detected on centrosomes in the G2 phase of the cell cycle, peaks in prometaphase and gradually disappears from centrosomes during anaphase. Dephosphorylation at Thr-210 at centrosomes is probably mediated by protein phosphatase 1C (PP1C), via interaction with PPP1R12A/MYPT1. Autophosphorylation and phosphorylation of Ser-137 may not be significant for the activation of PLK1 during mitosis, but may enhance catalytic activity during recovery after DNA damage checkpoint. Phosphorylated in vitro by STK10. Ubiquitinated by the anaphase promoting complex/cyclosome (APC/C) in anaphase and following DNA damage, leading to its degradation by the proteasome. Ubiquitination is mediated via its interaction with FZR1/CDH1. Ubiquitination and subsequent degradation prevents entry into mitosis and is essential to maintain an efficient G2 DNA damage checkpoint. Monoubiquitination at Lys-492 by the BCR(KLHL22) ubiquitin ligase complex does not lead to degradation: it promotes PLK1 dissociation from phosphoreceptor proteins and subsequent removal from kinetochores, allowing silencing of the spindle assembly checkpoint (SAC) and chromosome segregation.

Images



ARG52396 anti-PLK1 phospho (Thr210) antibody WB image

Western blot: Rat synaptic membrane stained with ARG52396 anti-PLK1 phospho (Thr210) antibody showing specific immunolabeling of the ~66 k PLK protein phosphorylated at Thr210 (control). The phosphospecificity of this labeling is shown in the second lane (lambda-phosphatase: λ-Ptase). The blot is identical to the control except that it was incubated in λ-Ptase (1200 units for 30 min) before being exposed to the phospho-Thr210 PLK antibody. The immunolabeling is completely eliminated by treatment with λ-Ptase.