



Rabbit Anti-Phospho-PLK1 (Ser137) antibody

SL3345R

Product Name:	Phospho-PLK1 (Ser137)
Chinese Name:	磷酸化丝/苏氨酸蛋白激酶Plk1抗体
Alias:	PLK1 (phospho S137); p-PLK1 (phospho S137); PLK1 (Phospho-Thr137); PLK1 (Phospho Thr137); p-PLK1 (Thr137); p-PLK1 (T137); Polo-Like Kinase(phospho T137); PLK 1; PLK; polio like kinase; Polo like kinase 1; Polo-like kinase 1; Serine/threonine protein kinase 13; Serine/threonine protein kinase PLK1; Serine/threonine-protein kinase; STPK 13; STPK13; Polo like kinase kinase; Cell cycle regulated protein kinase; PLK-1; plk1; PLK1 HUMAN.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Chicken,Dog,Pig,Cow,Rabbit,
Applications:	WB=1:500-1000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800IF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	68kDa
Cellular localization:	The nucleuscytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated Synthesised phosphopeptide derived from human PLK1 around the phosphorylation site of Ser137:R(p-S)LL
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed

PLK1 (polo-like kinase 1) is a member of the serine/threonine protein kinase family, cdc5/polo subfamily. PLK1 contains two polo box domains with a predicted molecular weight of 68 kDa. PLK1 has been shown to regulate cdc2/cyclin B through phosphorylation and activation of cdc25c phosphatase. PLK1 is modified by phosphorylation at Threonine 210. PLK1 may also be required for cell division. Depletion of PLK1 results in apoptosis and deregulation of expression of PKL1 is correlated with development of many malignancies.

Function:

Serine/threonine-protein kinase that performs several important functions throughout M phase of the cell cycle, including the regulation of centrosome maturation and spindle assembly, the removal of cohesins from chromosome arms, the inactivation of APC/C inhibitors, and the regulation of mitotic exit and cytokinesis. Required for recovery after DNA damage checkpoint and entry into mitosis. Required for kinetochore localization of BUB1B. Phosphorylates SGOL1. Required for spindle pole localization of isoform 3 of SGOL1 and plays a role in regulating its centriole cohesion function. Phosphorylates BORA, and thereby promotes the degradation of BORA. Contributes to the regulation of AURKA function. Regulates TP53 stability through phosphorylation of TOPORS. Phosphorylates NEDD1. NEDD1 phosphorylation promotes subsequent targeting of the gamma-tubulin ring complex (gTuRC) to the centrosome, an important step for spindle formation. Phosphorylates both ECT2 and RACGAP1, and thereby stimulates their interaction that is essential for the cleavage furrow formation. Promotes the central spindle recruitment of ECT2.

Subunit:

Interacts with CEP170 and EVI5. Interacts and phosphorylates ERCC6L. Interacts with FAM29A. Interacts with SLX4/BTBD12 and TTDN1. Interacts with BUB1B. Interacts (via POLO-box domain) with the phosphorylated form of BUB1, MLF1IP and CDC25C. Interacts with isoform 3 of SGOL1. Interacts with BORA, KIF2A and AURKA. Interacts with TOPORS and CYLD. Interacts with ECT2; the interaction is stimulated upon phosphorylation of ECT2 on 'Thr-444'. Interacts with PRC1.

Subcellular Location:

Nucleus. Chromosome, centromere, kinetochore. Cytoplasm, cytoskeleton, centrosome. Midbody. Note=During early stages of mitosis, the phosphorylated form is detected on centrosomes and kinetochores. Localizes to the outer kinetochore. Presence of SGOL1 and interaction with the phosphorylated form of BUB1 is required for the kinetochore localization.

Tissue Specificity:

Placenta and colon.

Post-translational modifications:

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.

Product Detail:

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.

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.

Similarity:

Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. CDC5/Polo subfamily.

Contains 2 POLO box domains.

Contains 1 protein kinase domain.

SWISS:

P53350

Gene ID:

5347

Database links:

[Entrez Gene: 5347](#) Human

[Entrez Gene: 18817](#) Mouse

[Entrez Gene: 25515](#) Rat

[Omim: 602098](#) Human

[SwissProt: P53350](#) Human

[SwissProt: Q07832](#) Mouse

[SwissProt: Q62673](#) Rat

[Unigene: 592049](#) Human

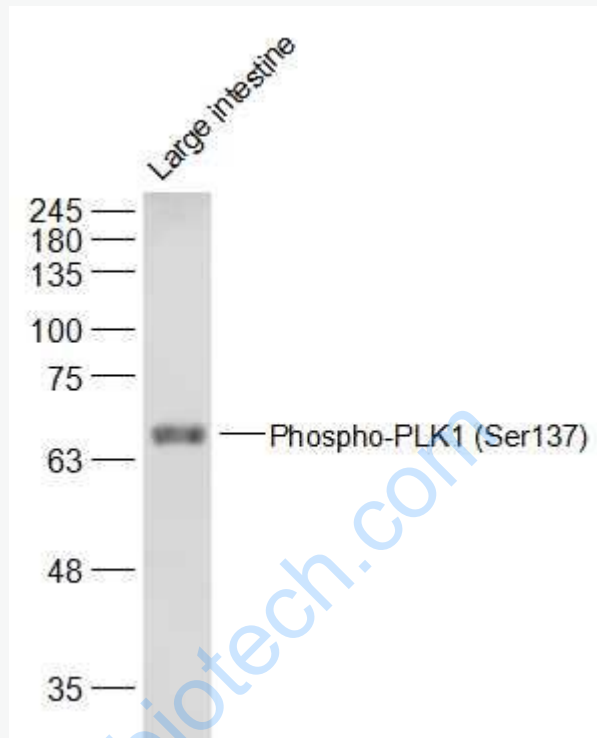
[Unigene: 16525](#) Mouse

[Unigene: 11034](#) Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Picture:



Sample:

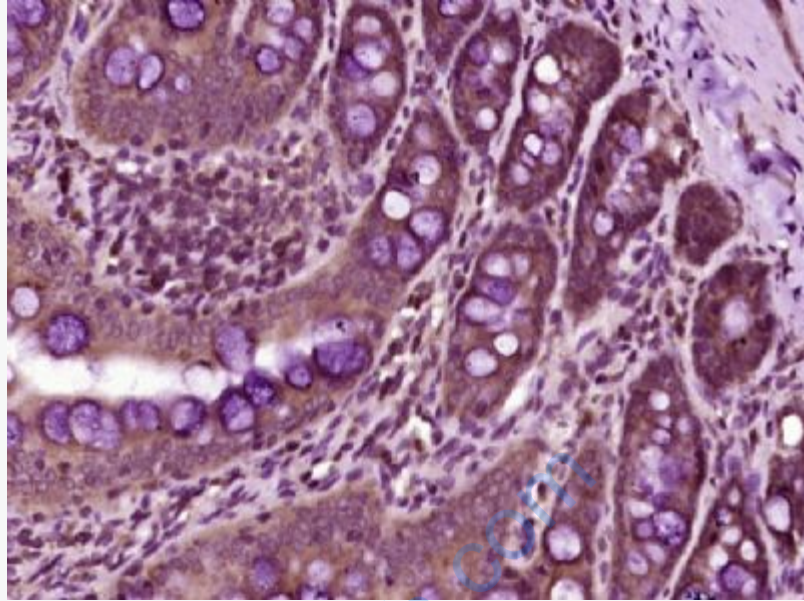
Large intestine (Mouse) Lysate at 40 ug

Primary: Anti-Phospho-PLK1 (Ser137) (SL3345R) at 1/500 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 68 kD

Observed band size: 68 kD



Paraformaldehyde-fixed, paraffin embedded (rat colon tissue); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PLK1 (Ser137)) Polyclonal Antibody, Unconjugated (SL3345R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.