

Anti-Polo-like Kinase (Plk1) pT210 (RABBIT) Antibody - 600-401-446

Code: 600-401-446

Size: 100 µg

Product Description: Anti-Polo-like Kinase (Plk1) pT210 (RABBIT) Antibody - 600-401-446

Concentration: 1.0 mg/mL by UV absorbance at 280 nm

PhysicalState: Liquid (sterile filtered)

Label	Unconjugated
Host	Rabbit
Gene Name	PLK1
Species Reactivity	human
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Stabilizer	None
Preservative	0.01% (w/v) Sodium Azide
Storage Condition	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Synonyms	PLK 1 antibody, PLK antibody, polio like kinase antibody, Polo like kinase 1 antibody, Polo-like kinase 1 antibody, Serine/threonine protein kinase 13 antibody
Application Note	This affinity-purified antibody has been tested for use in ELISA, IHC and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 68 kDa in size corresponding to Plk-1 by western blotting in the appropriate cell lysate or extract. This antibody is positive by IHC on kidney, liver, cancer, thyroid and lymphocyte tissue.
Background	Polo-like Kinase pT210 Antibody detects phosphorylated Plk1 protein. Polo-like kinase 1, also known as Plk-1, serine-threonine protein kinase 13 and STPK13, may be required for cell division and have a role during G ₁ or S phase and is associated with the phosphorylation of cyclin B ₁ . Phosphorylation of Plk-1 on T210 contributes to proper mitotic progression. Plk-1 has a nuclear localization and accumulates to a maximum during the G ₂ and M phases, declines to a nearly undetectable level following mitosis and throughout G ₁ phase, and then begins to accumulate again during S phase. Plk-1 is a member of the Ser/Thr protein kinase family and the CDC5/Polo subfamily and contains 2 POLO box domains.
Purity And Specificity	Anti-Polo-like Kinase pT210 Antibody is directed against human phosphorylated Plk1 protein. This antibody was affinity purified. This antibody is specific for phosphorylated human Plk-1 protein at the pT210 residue. BLAST analysis indicates 100 % homology of the immunizing sequence with Plk-1 homologues from human, chimpanzee, pig, chicken, mouse, rat, Xenopus, dog, mosquito, zebra fish, starfish, sea urchin and fruit fly. Cross reactivity with Plk-1 protein homologues from C. elegans and honeybee may also occur as sequence homology varies by one amino acid residue in this sequence. Reactivity with Plk-1 protein from other sources is not known. Minimal reactivity is expected with the non-phosphorylated form of the protein.
Assay Dilutions	User Optimized
ELISA	1:3,000 - 1:12,000
Immunohistochemistry	1:200 - 1:1,000
WESTERN BLOT	1:200 - 1:2,000
IHC	1:200 - 1:1,000
OTHER ASSAYS	User Optimized
Immunogen	Anti-Polo-like Kinase pT210 Antibody was produced by repeated immunizations with a synthetic phospho peptide corresponding to aa 205-214 of Human Polo-like kinase 1 (Plk1) protein.
General Reference	van Vugt, M.A., Br and Medema, R.H. (2004) Polo-like kinase-1 controls recovery from a G ₂ DNA damage-induced arrest in mammalian cells. <i>Mol. Cell</i> 15 (5), 799-811. van Vugt, M.A. et al. (2004) Polo-like kinase-1 is required for bipolar spindle formation but is dispensable for anaphase promoting complex/Cdc20 activation and initiation of cytokinesis. <i>J. Biol. Chem.</i> 279 (35), 36841-36854. Weichert, W., Schmidt, M., Gekeler, V., Denkert, C., Stephan, C., Jung, K., Loening, S., Dietel, M. and Kristiansen, G.

(2004) Polo-like kinase 1 is overexpressed in prostate cancer and linked to higher tumor grades. *Prostate* 60 (3), 240-245.

Gunawardena,R.W., Siddiqui,H., Solomon,D.A., Mayhew,C.N., Held,J., Angus,S.P. and Knudsen,E.S. (2004) Hierarchical requirement of SWI/SNF in retinoblastoma tumor suppressor-mediated repression of Plk1. *J. Biol. Chem.* 279 (28), 29278-29285.

Ando,K., Ozaki,T., Yamamoto,H., Furuya,K., Hosoda,M., Hayashi,S., Fukuzawa,M. and Nakagawara,A. (2004) Polo-like kinase 1 (Plk1) inhibits p53 function by physical interaction and phosphorylation. *J. Biol. Chem.* 279 (24), 25549-25561.

Litvak,V., Argov,R., Dahan,N., Ramachandran,S., Amarilio,R., Shainskaya,A. and Lev,S. (2004) Mitotic phosphorylation of the peripheral Golgi protein Nir2 by Cdk1 provides a docking mechanism for Plk1 and affects cytokinesis completion. *Mol. Cell* 14 (3), 319-330.

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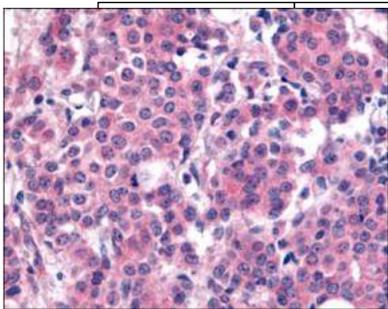
100-401-160	Anti-cdc2 (p34) (RABBIT) Antibody - 100-401-160
100-401-A17	Anti-CDC20 (fizzy) (C-terminal specific) [RABBIT] Antibody - 100-401-A17
200-301-160	Anti-cdc2 (p34) (MOUSE) Monoclonal Antibody - 200-301-160
600-401-465	Anti-Aurora B (pan reactive) (RABBIT) Antibody - 600-401-465

Related Links

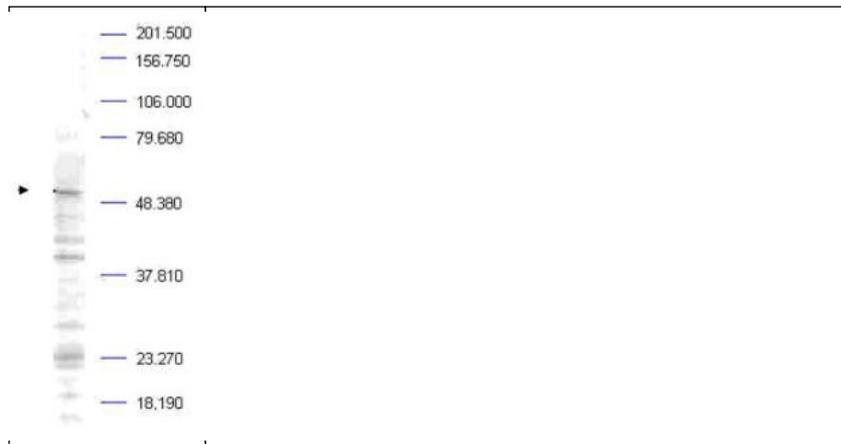
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UniProt - P53350	http://www.uniprot.org/uniprot/P53350
Gene ID - 5347	http://www.ncbi.nlm.nih.gov/gene/5347

Images

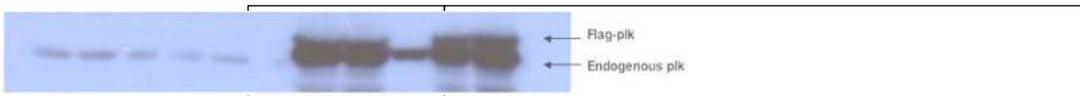
- 1 Affinity Purified Plk1 pT210 was used at a 1:200 dilution to detect Plk1 by immunohistochemistry in human breast carcinoma tumor tissue. Tissue was formalin-fixed and paraffin embedded. Personal Communication, Alan Yen, LifeSpanBiosciences, Seattle, WA.



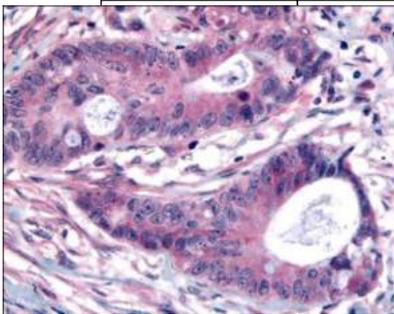
- 2 Western blot analysis is shown using Rockland's Affinity Purified anti-Plk-1 pT210 antibody to detect endogenous protein present in a Mouse A20 whole cell lysate (arrowhead). Comparison to a molecular weight marker indicates a band of ~68 kDa corresponding to Plk-1 protein. It is suggested to use a nuclear extract from synchronized cells to greatly increase the abundance of this protein in preparations. The blot was incubated with a 1:500 dilution of the antibody at room temperature followed by detection using standard techniques. Personal communication Steven Pelech, Kinexus Inc. Vancouver, BC. Storage Conditions: Store vial at -20° C prior to opening. Dilute only prior to immediate use. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Expiration date is one (1) year from date of opening.



3 Western blot analysis is shown to detect endogenous and recombinant protein present in HeLa cell lysates transfected with various plk-1 mutation constructs. Blots were reacted with anti-Plk-1 pT210 (panel A) and pan reactive anti-Plk-1 (panel B). Transfected cells were treated with 1 μ M nocodazole followed by cell collection, lysate preparation, SDS-PAGE and western blotting. Using a 1:1000 dilution, anti-Plk-1 pT210 detects a single band corresponding to endogenous plk-1, but does not detect recombinant forms of the protein presumably because of a lack of phosphorylation in these mutants. Personal communication Hai Jiang, Northwestern Univ.



4 Affinity Purified Plk1 pT210 was used at a 1:200 dilution to detect Plk1 by immunohistochemistry in human colon carcinoma tumor tissue. Tissue was formalin-fixed and paraffin embedded. Personal Communication, Alan Yen, LifeSpanBiosciences, Seattle, WA.



Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.