www.phosphosolutions.com
orders@phosphosolutions.com
888-442-7100

Product Datasheet

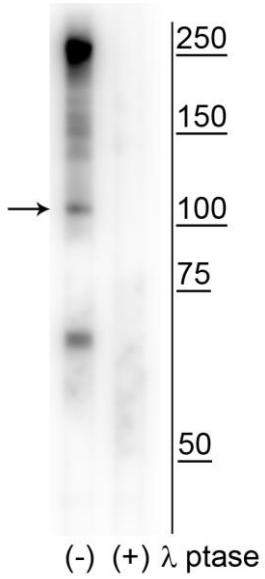
Anti-CtIP (Ser327)

Pooled Serum

Overview

Catalog #	p1012-327
Host Species	Rabbit Polyclonal
Format	Antigen Affinity Purified from Pooled Serum
Applications	WB 1:1000
Species Tested	Human
Expected Reactivity	Non-Human Primate
Immunogen	Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser327 of human CtIP, conjugated to keyhole limpet hemocyanin (KLH).
Molecular Weight	100 kDa
Cite this Antibody	PhosphoSolutions Cat# p1012-327, RRID:AB_2651148

Images



Western blot of human T47D cell lysate showing specific immunolabeling of the ~100 kDa CtIP phosphorylated at Ser^{327} in the first lane (-). Phosphospecificity is shown in the second lane (+) where immunolabeling is completely eliminated by blot treatment with *lambda* phosphatase (λ-Ptase, 1200 units for 30 min).

Details

Target Description	CtIP, C-terminal binding protein-interacting protein, is a DNA endonuclease activated by double stranded breaks (DSBs). DSB repairs can be performed by either one of two mechanisms; non-homologous end joining (NHEJ) or homologous recombination (HR). NHEJ is the predominant DSB repair pathway throughout the entire cell cycle, most importantly in the G1 phase (Rothkamm et al, 2003); while HR is important for repairing DSBs in S and G2 phases (Beucher et al, 2009). CtIP controls DSB resection; an event that only occurs in HR during G2-phase. Phosphorylation of Thr-847 dictates the resection efficiency (Huertas et al, 2008). Furthermore, it has been found that DSBs undergo resection and repair in G1-phase cells via a process requiring Plk3 phosphorylation of CtIP at Ser-327 and Thr-847 (Barton et al, 2014). Several additional phosphorylation sites within CtIP have been identified, but their significance in the repair of DNA have yet to be determined.
Specificity	Specific for endogenous levels of the ~100 kDa CtIP protein phosphorylated at Ser327. Immunolabeling is completely eliminated by treatment with λ-phosphatase.
Production/Purification	Prepared from pooled rabbit serum by affinity purification via sequential chromatography on phospho and non-phosphopeptide affinity columns.
Quality Control	Western blots performed on each lot.
Buffer	10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50% glycerol.
Storage	Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol.
Stability	After date of receipt, stable for at least 1 year at -20°C.

Significant Citations

Zhou, Q., Tu, X., Hou, X., Yu, J., Zhao, F., Huang, J., Kloeber, J., Olson, A., Gao, M., Luo, K., Zhu, S., Wu, Z., Zhang, Y., Sun, C., Zeng, X., Schoolmeester, K.J., Weroha, J.S., Hu, X., Jiang, Y. and Wang, L. (2024). Syk-dependent homologous recombination activation promotes cancer resistance to DNA targeted therapy. *Drug Resistance Updates: Reviews and Commentaries in Antimicrobial and Anticancer Chemotherapy*, [online] 74, p.101085.

Gao, M., Guo, G., Huang, J., Kloeber, J.A., Zhao, F., Deng, M., Tu, X., Kim, W., Zhou, Q., Zhang, C. and Yin, P., 2020. USP52 regulates DNA end resection and chemosensitivity through removing inhibitory ubiquitination from CtIP. *Nature Communications*, *11(1)*, pp.1-13.

Barton, O., Naumann, S.C., Diemer-Biehs, R., Künzel, J., Steinlage, M., Conrad, S., Makharashvili, N., Wang, J., Feng, L., Lopez, B.S. and Paull, T.T., 2014. Polo-like kinase 3 regulates CtIP during DNA double-strand break repair in G1. *J Cell Biol*, 206(7), pp.877-894.

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