

Product Datasheet

Phospho-Chk1 (Ser317) rabbit mAb Antibody (orb1946155)

Catalog Number	orb1946155
Category	Antibodies
Description	<p>The act of DNA damaged response and cell cycle checkpoints requires the activation of four protein kinases that form the canonical ATR-Chk1 and ATM-Chk2 pathways. ATR activation requires the generation of structures containing single strand DNA (ssDNA) adjacent to double strand DNA (dsDNA). Such ssDNA is coated with replication protein A complex and attracts ATR (1,2). The accumulation of ATR to damage sites results in initial activation of ATR. ATR phosphorylates proteins at the ssDNA which are called checkpoint regulators. The accumulation and phosphorylation of these checkpoint regulators further stimulates the catalytic activity of ATR. ATR-induced Chk1 phosphorylation likely occurs at the sites of DNA damage on chromatin (3-5). The activated ATR phosphorylates Chk1 at Ser317 and Ser345 in its C-terminal regulatory domain. Phospho Chk1 is critical for DNA damage checkpoint activation, replication control, and cell viability (6-8). Functionally, ATR-mediated phosphorylation elevates phospho Chk1 catalytic activity. The N-terminal catalytic domain of Chk1 adopts an open kinase conformation and the deletion of C-terminal domain increases Chk1 catalytic activity.</p>
Clonality	Monoclonal
Species/Host	Rabbit
Isotype	Rabbit IgG1k
Conjugation	Unconjugated
Reactivity	Human, Mouse
Form/Appearance	Liquid

Biorbyt Ltd.

7 Signet Court, Swann Road
Cambridge
CB5 8LA
United Kingdom

Email: info@biorbyt.com, support@biorbyt.com

Phone: +44 (0)1223 859353 | Fax: +1 (415) 651-8558

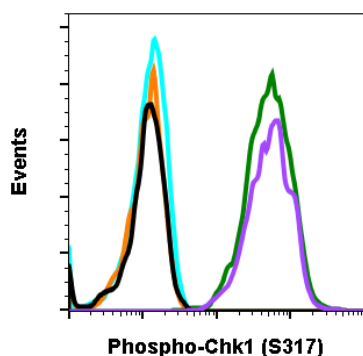
Biorbyt LLC

68 TW Alexander Drive
Research Triangle Park
Durham
NC 27713-2847
United States

Email: info@biorbyt.com, support@biorbyt.com

Phone: +1 (415) 906-5211 | Fax: +1 (415) 651-8558

Concentration	0.5 mg/mL
Buffer/Preservatives	1X PBS, 0.02% NaN ₃ , 50% Glycerol, 0.1% rAlbumin
Purification	Protein A+G
Immunogen	A synthetic phospho-peptide corresponding to residues surrounding Ser317 of human phospho Chk1
UniProt ID	O14757
Tested applications	FC, WB
Dilution range	1µg/mL - 0.001µg/mL. It is recommended that the reagent be titrated for optimal performance for each application. See product image legends for additional information.
Cross Reactivity	Predicted to work with mouse, rat and other homologues.
Clone Number	B13
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Note	For research use only
Expiration Date	12 months from date of receipt.



Peptide blocking flow cytometric analysis of K562 cells secondary antibody only negative control (light blue) or using 0.1 µg/mL of isotype control Cat. #orb1946241 (orange) or treated with pervanadate and using 0.1 µg/mL of Phospho-Chk1 (S317) antibody Chk1S317-G1 Cat. #orb1946155 (green) or pervanadate and blocked with phospho peptide (black) or pervanadate and blocked with non-phospho peptide (purple).

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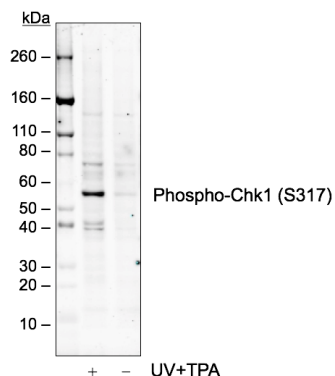
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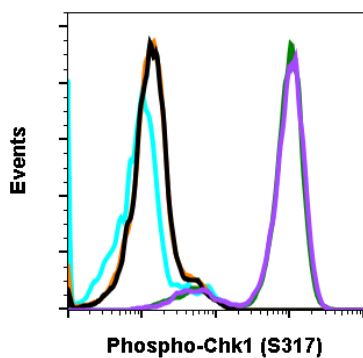
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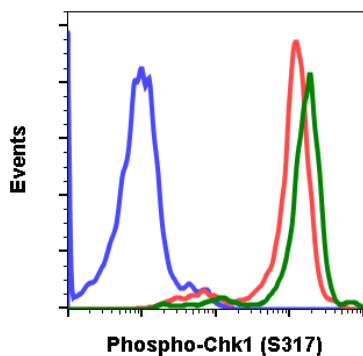
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Western blot analysis of COS7 cell extract untreated or treated with UV + TPA using Phospho Chk1 (S317) antibody Chk1S317-G1 at 0.01 µg/mL. Cat. #orb1946155.



Peptide blocking flow cytometric analysis of NIH3T3 cells secondary antibody only negative control (light blue) or using 0.1 µg/mL of isotype control Cat. #orb1946241 (orange) or treated with IFNα + IL4 + pervanadate and using 0.1 µg/mL of Phospho-Chk1 (S317) antibody Chk1S317-G1 Cat. #orb1946155 (green) or IFNα + IL4 + Pv and blocked with phospho peptide (black) or IFNα + IL4 + Pv and blocked with non-phospho peptide (purple).



Flow cytometric analysis of K562 cells secondary antibody only negative control (blue) or untreated (red) or treated with IFNα + IL4 + pervanadate (green) using Phospho-Chk1 (S317) antibody Chk1S317-G1 0.1 µg/mL. Cat. #orb1946155.

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