abcam

Product datasheet

Anti-Chk2 antibody [EPR4325] - BSA and Azide free ab227998

KO VALIDATED | Recombinant | RabMAb

4 References 6 Images

Overview

Product name	Anti-Chk2 antibody [EPR4325] - BSA and Azide free
Description	Rabbit monoclonal [EPR4325] to Chk2 - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, Flow Cyt, IP, IHC-P, ICC, WB
Species reactivity	**Reacts with:** Human
Immunogen	Recombinant fragment aa 1-200.
Positive control	WB: HeLa (untreated and treated with gamma irradiation), HT-29, and 293T cell lysates. IHC-P: Human colon and spleen tissues. ICC/IF: Wild-type HAP1 cells.
General notes	ab227998 is the carrier-free version of ab109413 This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes. Our carrier-free formats are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency. Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. Ab227998 is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm. *Maxpar® is a trademark of Fluidigm Canada Inc.* Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20

	Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR4325
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab227998** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

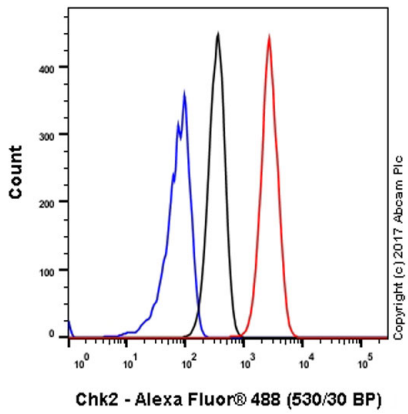
Application	Abreviews	Notes
ICC/IF		Use at an assay dependent concentration.
Flow Cyt		Use at an assay dependent concentration. ab199376 - Rabbit monoclonal IgG (Low endotoxin, Azide free), is suitable for use as an isotype control with this antibody.
IP		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. antigen retrieval is recommended.
ICC		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration. Detects a band of approximately 62 kDa (predicted molecular weight: 61 kDa).

Target

Function	Regulates cell cycle checkpoints and apoptosis in response to DNA damage, particularly to DNA double-strand breaks. Inhibits CDC25C phosphatase by phosphorylation on 'Ser-216', preventing the entry into mitosis. May also play a role in meiosis. Regulates the TP53 tumor suppressor through phosphorylation at 'Thr-18' and 'Ser-20'.
Tissue specificity	High expression is found in testis, spleen, colon and peripheral blood leukocytes. Low expression is found in other tissues.
Involvement in disease	Defects in CHEK2 are associated with Li-Fraumeni syndrome 2 (LFS2) [MIM:609265]; a highly penetrant familial cancer phenotype usually associated with inherited mutations in p53/TP53. Defects in CHEK2 may be a cause of susceptibility to prostate cancer (PC) [MIM:176807]. It is a malignancy originating in tissues of the prostate. Most prostate cancers are adenocarcinomas that develop in the acini of the prostatic ducts. Other rare histopathologic types of prostate cancer that occur in approximately 5% of patients include small cell carcinoma, mucinous carcinoma, prostatic ductal carcinoma, transitional cell carcinoma, squamous cell carcinoma, basal cell carcinoma, adenoid cystic carcinoma (basaloid), signet-ring cell carcinoma and neuroendocrine

	carcinoma. Defects in CHEK2 are found in some patients with osteogenic sarcoma (OSRC) [MIM:259500].
Sequence similarities	Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CHK2 subfamily. Contains 1 FHA domain. Contains 1 protein kinase domain.
Post-translational modifications	Phosphorylated by PLK4.
Cellular localization	Nucleus; Nucleus. Isoform 10 is present throughout the cell and Nucleus > PML body. Nucleus > nucleoplasm. Recruited into PML bodies together with TP53.

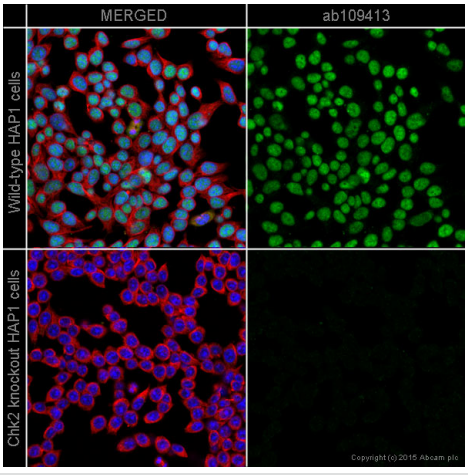
Images



Flow Cytometry - Anti-Chk2 antibody [EPR4325] - BSA and Azide free (ab227998)

Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling Chk2 with purified ab109413 at 1/230 dilution(10 µg/ml) (red). Cells were fixed with 80% methanol and permeabilised with 0.1% Tween-20. A Goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black)(ab172730) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.

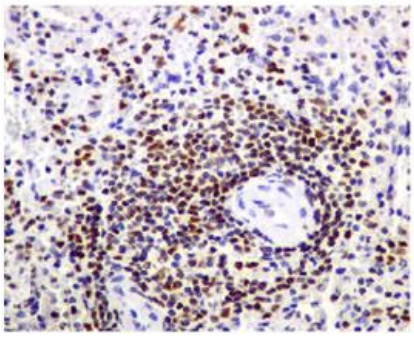
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109413).



Immunocytochemistry/ Immunofluorescence - Anti-Chk2 antibody [EPR4325] - BSA and Azide free (ab227998)

ab109413 staining Chk2 in wild-type HAP1 cells (top panel) and Chk2 knockout HAP1 cells (bottom panel). The cells were fixed with 100% methanol (5 minutes), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1 hour. The cells were then incubated with ab109413 at 1/250 dilution and ab195889 at 1/250 dilution (shown in pseudo colour red) overnight at +4°C, followed by a further incubation at room temperature for 1 hour with a goat secondary antibody to Rabbit IgG (Alexa Fluor® 488) (ab150081) at 2 µg/ml (shown in green). Nuclear DNA was labelled in blue with DAPI.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109413).

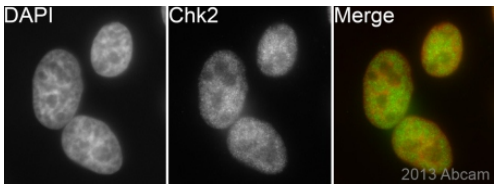


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Chk2 antibody [EPR4325] - BSA and Azide free (ab227998)

Immunohistochemical analysis of paraffin-embedded human spleen tissue using ab109413 at a 1/100 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109413).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

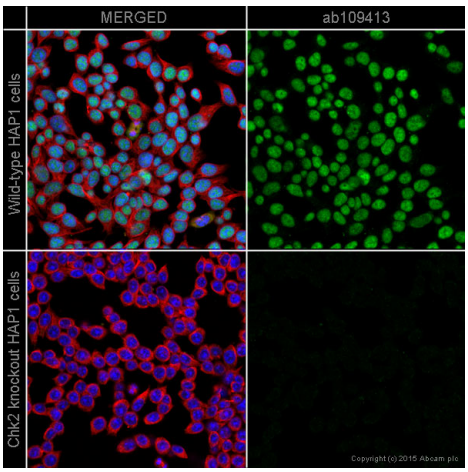


Immunocytochemistry/ Immunofluorescence - Anti-Chk2 antibody [EPR4325] - BSA and Azide free (ab227998)

This image is courtesy of an Abreview submitted by Kirk McManus.

ab109413 (1/500) staining Chk2 in HeLa (human epithelial cell line from cervix adenocarcinoma) cells (green). Cells were fixed in paraformaldehyde, permeabilized with 0.5% Triton X-100/PBS and counterstained with DAPI in order to highlight the nucleus (red). For further experimental details please see Abreview.

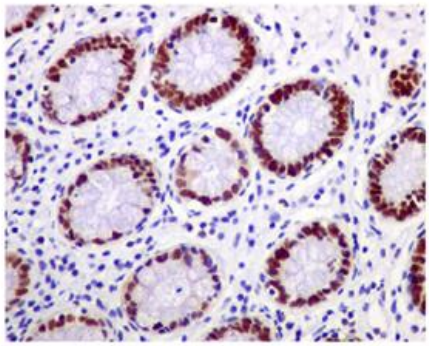
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109413).



Immunocytochemistry/ Immunofluorescence - Anti-Chk2 antibody [EPR4325] - BSA and Azide free (ab227998)

This ICC data was generated using the same anti-Chk2 antibody clone, EPR4325, in a different buffer formulation (cat# ab10413).

ab109413 staining Chk2 in wild-type HAP1 cells (top panel) and Chk2 knockout HAP1 cells (bottom panel). The cells were fixed with 100% methanol (5 minutes), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1 hour. The cells were then incubated with ab109413 at 1/250 dilution and ab195889 at 1/250 dilution (shown in pseudo colour red) overnight at +4°C, followed by a further incubation at room temperature for 1 hour with a goat secondary antibody to Rabbit IgG (Alexa Fluor® 488) (ab150081) at 2 µg/ml (shown in green). Nuclear DNA was labelled in blue with DAPI.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Chk2 antibody [EPR4325] - BSA and Azide free (ab227998)

This IHC data was generated using the same anti-Chk2 antibody clone, EPR4325, in a different buffer formulation (cat# ab109413).

Immunohistochemical analysis of paraffin-embedded human colon tissue using ab109413 at a 1/100 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

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