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Anti-PCNA Antibody Picoband® (monoclonal, 2G2)

Catalog Number: M00125-3

About PCNA

Proliferating cell nuclear antigen (PCNA) is a DNA clamp that acts as a processivity factor for DNA polymerase delta in eukaryotic cells and is essential for replication. It is mapped to 20p12.3. The protein encoded by this gene is found in the nucleus and is a cofactor of DNA polymerase delta. The encoded protein acts as a homotrimer and helps increase the processivity of leading strand synthesis during DNA replication. In response to DNA damage, this protein is ubiquitinated and is involved in the RAD6-dependent DNA repair pathway. Two transcript variants encoding the same protein have been found for this gene. Pseudogenes of this gene have been described on chromosome 4 and on the X chromosome.

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Overview

Product Name	Anti-PCNA Antibody Picoband® (monoclonal, 2G2)
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-PCNA Antibody Picoband® (monoclonal, 2G2) catalog # M00125-3. Tested in FCM, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Monoclonal 2G2
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Storage Instructions	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.
Host	Mouse
Uniprot ID	P12004

Technical Details

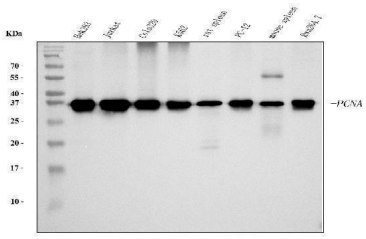
Immunogen	E.coli-derived human PCNA recombinant protein (Position: M1-S261).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western

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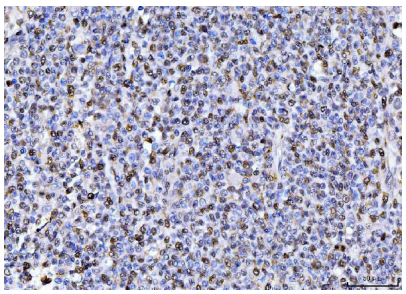
	blot, and HRP Conjugated anti-Mouse IgG Super Vision Assay Kit (SV0001-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Mouse IgG2b
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5 ug/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Human, Mouse, Rat Immunocytochemistry/Immunofluorescence, 5 ug/ml, Human Flow Cytometry (Fixed), 1-3 ug/1x^6 cells, Human Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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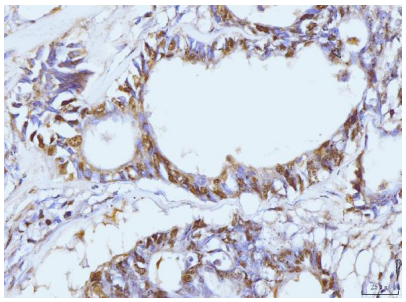
Anti-PCNA Antibody Picoband® (monoclonal, 2G2) (M00125-3) Images



Western blot analysis of PCNA using anti-PCNA antibody (M00125-3). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human HEK293 whole cell lysates, Lane 2: human Jurkat whole cell lysates, Lane 3: human Colo320 whole cell lysates, Lane 4: human K562 whole cell lysates, Lane 5: rat spleen tissue lysates, Lane 6: rat PC-12 whole cell lysates, Lane 7: mouse spleen tissue lysates, Lane 8: mouse RAW264.7 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-PCNA antigen affinity purified monoclonal antibody (Catalog # M00125-3) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for PCNA at approximately 36 kDa. The expected band size for PCNA is at 36 kDa.



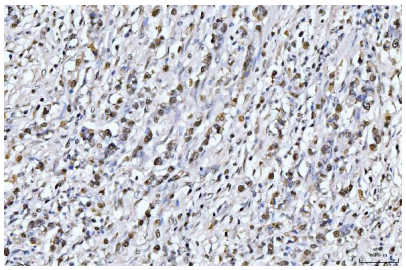
IHC analysis of PCNA using anti-PCNA antibody (M00125-3). PCNA was detected in a paraffin-embedded section of human clymphadenoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml mouse anti-PCNA Antibody (M00125-3) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.



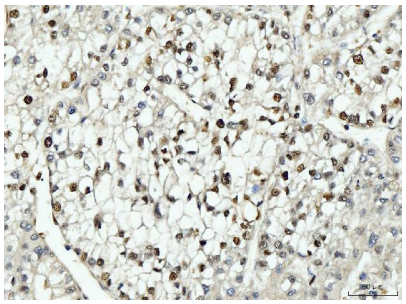
IHC analysis of PCNA using anti-PCNA antibody (M00125-3). PCNA was detected in a paraffin-embedded section of human colonic adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml mouse anti-PCNA Antibody (M00125-3) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

IHC analysis of PCNA using anti-PCNA antibody (M00125-3).

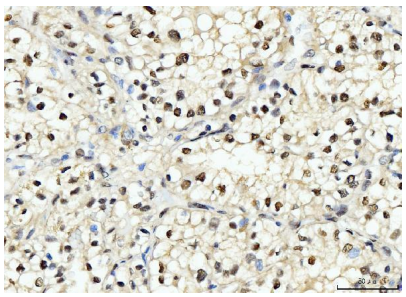
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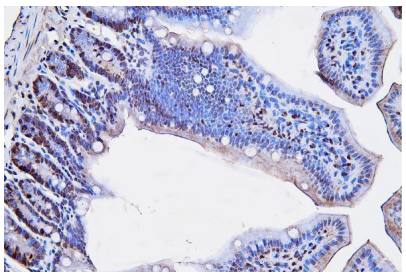
PCNA was detected in a paraffin-embedded section of human gastric cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml mouse anti-PCNA Antibody (M00125-3) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.



IHC analysis of PCNA using anti-PCNA antibody (M00125-3). PCNA was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml mouse anti-PCNA Antibody (M00125-3) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.



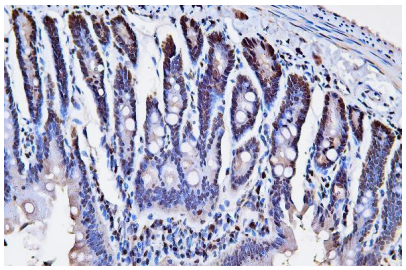
IHC analysis of PCNA using anti-PCNA antibody (M00125-3). PCNA was detected in a paraffin-embedded section of human renal clear cell carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml mouse anti-PCNA Antibody (M00125-3) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.



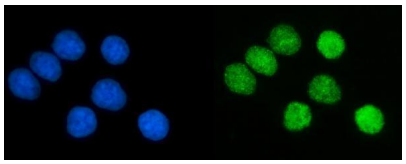
IHC analysis of PCNA using anti-PCNA antibody (M00125-3). PCNA was detected in a paraffin-embedded section of mouse colon tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml mouse anti-PCNA Antibody (M00125-3) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

IHC analysis of PCNA using anti-PCNA antibody (M00125-3). PCNA was detected in a paraffin-embedded section of rat colon tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml mouse anti-PCNA

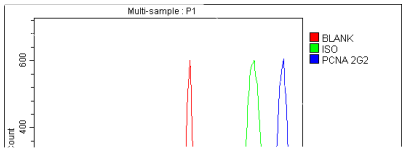
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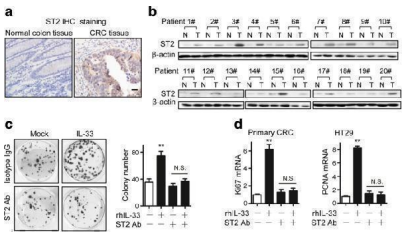
Antibody (M00125-3) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.



IF analysis of PCNA using anti-PCNA antibody (M00125-3). PCNA was detected in an immunocytochemical section of HEP3B cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/mL mouse anti-PCNA Antibody (M00125-3) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

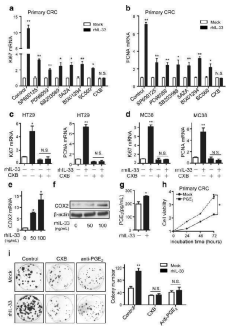


Flow Cytometry analysis of JK cells using anti-PCNA antibody (M00125-3). Overlay histogram showing JK cells stained with M00125-3 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-PCNA Antibody (M00125-3, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

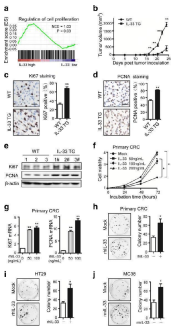


IL-33 facilitated CRC proliferation by signaling its receptor ST2. a Immunohistochemical staining of ST2 in the CRC tissues and the adjacent normal colon tissues (20 pairs). The representative images are shown. Scale bar, 20 um. b ST2 expression levels in the paired CRC tissues (T) and the adjacent normal colon tissues (N) analyzed by Western blotting. c The flat colony formation of primary CRC cells incubated for 15 days in RPMI medium or RPMI medium containing rhIL-33 (100 ng/mL) or/ and ST2 antibody (2 ug/mL). Three parallel wells were set for each treatment. Each experiment was performed three times. The representative images of colonies and the statistical data are shown. Data expressed as mean ± SEM. ** $P < 0.01$. d Ki67 and PCNA expression in primary CRC cells responding to the incubation with rhIL-33 (100 ng/mL) or/ and ST2 antibody (2 ug/mL) for 24 h. Three parallel wells were set for each treatment. Each experiment was performed three times. Data expressed as mean ± SEM. ** $P < 0.01$ Index in PubMed under a CC BY license. PMID: 30119635

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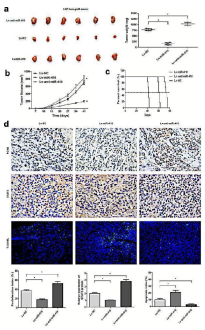
COX2/PGE 2 mediates the proliferation promoting function of IL-33. a , b The relative mRNA levels of Ki67 (a) and PCNA (b) in primary CRC cells responding to rhIL-33 (100 ng/mL) incubation and/ or indicated inhibitors (SB203580, 10 ug/mL; PD98059, 20 ug/mL; SP600125, 10 ug/mL; BIX01294, 2 uM; 5Aza, 10 uM; SC560, 0.1 ug/mL; celecoxib, 20 ug/mL) for 24 h. c The relative mRNA levels of Ki67 and PCNA in HT-29 cells incubated with rhIL-33 (100 ng/mL) or/ and celecoxib (CXB) (20 ug/mL) in medium for 24 h. d The relative mRNA levels of Ki67 and PCNA in MC38 cells incubated with rmIL-33 (100 ng/mL) or/ and celecoxib (CXB) (20 ug/mL) in medium for 24 h. e , f The mRNA (e) and protein (f) expression of COX2 in primary CRC cells incubated with 0, 50 or 100 ng/mL of rhIL-33 in medium for 24 h. g PGE 2 concentrations in the supernatants of primary CRC cells incubated with rhIL-33-contained RPMI medium or blank RPMI medium for 48 h. h Cell viabilities of primary CRC cells incubated with or without PGE 2 (50 ng/mL) in medium. i The flat colony formation of primary CRC cells incubated for 15 days in medium containing different factors as indicated (IL-33, 100 ng/mL; celecoxib, 20 ug/mL; anti-PGE 2 , 2 ug/mL). The representative images of colonies and the statistical data are shown. Three parallel wells were set for each treatment. Each experiment was performed three times. Data expressed as mean ± SEM. * P < 0.05. ** P < 0.01 Index in PubMed under a CC BY license. PMID: 30119635



IL-33 promotes CRC proliferation both in vivo and in vitro. a Correlation between IL-33 transcripts and the genes involved in the regulation of cell proliferation in CRC. Gene set enrichment analysis was performed using CRC TCGA database. NES = 1.03, P = 0.03. b Growth curves of MC38 tumors inoculated in IL-33 transgenic mice (IL-33 TG) or wild-type mice (WT). n = 7. c , d Immunohistochemical staining of Ki67 (c) and PCNA (d) in the MC38 tumors recovered from wild-type and IL-33 transgenic mice at Day 22 post inoculation. The representative images and the statistical proportions of positive cells are shown. Scale bar, 50 um. n = 7. Data expressed as mean ± SEM. **, P < 0.01. e Western blot of Ki67 and PCNA in the MC38 tumors recovered from wild-type and IL-33 transgenic mice. n = 3. f Cell viabilities of human primary CRC cells incubated with 0, 50, 100 or 200 ng/mL of rhIL-33 in medium at 24 th , 48 th and 72 nd h. Six parallel wells were set for each treatment. The experiment was performed three times. Data expressed as mean ± SEM. * P < 0.05. g Ki67 and PCNA mRNA levels in primary CRC cells incubated with rhIL-33 (0, 50 or 100 ng/mL) for 24 h. Each experiment was performed three times. Three parallel wells were set for each treatment. Data expressed as mean ± SEM. ** P < 0.01. h , i , j The flat colony formation with 500 primary CRC cells (h) and 500 HT29 cells (i) incubated with rhIL-33 (100 ng/mL) and the flat colony formation with 500 MC38 cells (j) incubated with rmIL-33 (100 ng/mL). The number of colony was counted at Day 10. Each experiment was performed three times. Three parallel wells were set for each treatment. The representative images of colonies and the statistical data

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are shown. Data expressed as mean ± SEM. * P < 0.05 Index in PubMed under a CC BY license. PMID: 30119635



MiR-410 blocks glioma cell growth and mediates cell apoptosis in vivo. (a) Photograph of three group tissues and tumor weights dissected from nude mice with the tumor formed by the cells from U87 infected with LV-miR-NC, LV-miR-410 or LV-anti-miR-410(n = 6). (b) Three groups measured every 5 days by caliper measurement up to 41 days(n = 6). (c) Kaplan–Meier (survival) analysis of three groups with LV-miR-NC, LV-miR-410, and LV-anti-miR-410(n = 6). (d) Immunohistochemistry of PCNA, STAT3 staining (× 200) and Tunnel assay (× 200) of the tumor formation of U87 infected with LV-miR-NC, LV-miR-410 or LV-anti-miR-410. * P < 0.05 compared with LV-miR-NC group. Index in PubMed under a CC BY license. PMID: 38238515

24 Publications Citing This Product

1. PubMed ID: 10.3892/ol.2014.1803, Abscopal antitumor immune effects of magnet-mediated hyperthermia at a high therapeutic temperature on Walker-256 carcinosarcomas in rats

2. PubMed ID: 10.3892/or.16.5.1021, Histological type of oncogenity and expression of cell cycle genes in tumor cells from human mesenchymal stem cells

3. PubMed ID: 10.1002/mabi.201700174, Self-Assembled Polyprodrug Amphiphile for Subcutaneous Xenograft Tumor Inhibition with Prolonged Acting Time In Vivo

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