BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

Anti-Dnmt1 Antibody Picoband®

Catalog Number: A00172-1

About DNMT1

DNA (cytosine-5)-methyltransferase 1 is an enzyme that in humans is encoded by the DNMT1 gene. This gene encodes an enzyme that transfers methyl groups to cytosine nucleotides of genomic DNA. This protein is the major enzyme responsible for maintaining methylation patterns following DNA replication and shows a preference for hemi-methylated DNA. Methylation of DNA is an important component of mammalian epigenetic gene regulation. Aberrant methylation patterns are found in human tumors and associated with developmental abnormalities. Variation in this gene has been associated with cerebellar ataxia, deafness, and narcolepsy, and neuropathy, hereditary sensory, type IE. Alternative splicing results in multiple transcript variants.

Submit a product review to Biocompare.com





Submit a review of this product to Biocompare.com to receive a $20 Amazon.com giftcard! Your reviews help your fellow scientists make the right decisions. Thank you for your contribution.

Overview

Product Name	Anti-Dnmt1 Antibody Picoband®
Reactive Species	Human
Description	Boster Bio Anti-Dnmt1 Antibody Picoband® catalog # A00172-1. Tested in ELISA, Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human. 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	ELISA, Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Storage Instructions	Store 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 freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P26358

Technical Details

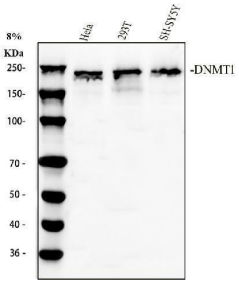
Immunogen	E. coli-derived human Dnmt1 recombinant protein (Position: D22-N126).

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

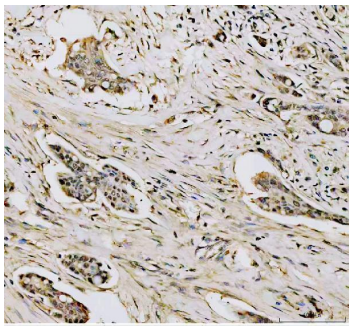
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Human Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human Immunocytochemistry/Immunofluorescence, 5ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Human ELISA, 0.1-0.5ug/ml, - Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

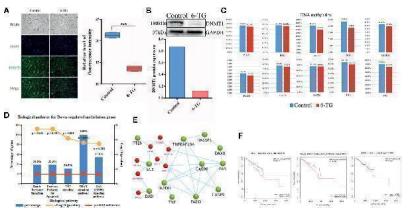
Anti-Dnmt1 Antibody Picoband® (A00172-1) Images



Western blot analysis of DNMT1 using anti-DNMT1 antibody (A00172-1). Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human Hela whole cell lysates, Lane 2: human 293T whole cell lysates, Lane 3: human SH-SY5Y 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 rabbit anti-DNMT1 antigen affinity purified polyclonal antibody (A00172-1) 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-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for DNMT1 at approximately 200 kDa. The expected band size for DNMT1 is at 183 kDa.



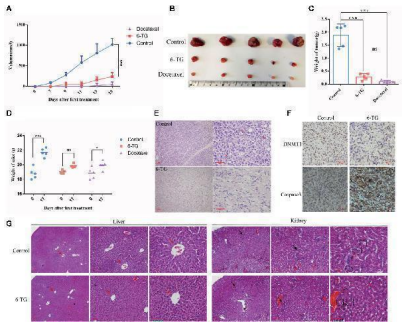
IHC analysis of DNMT1 using anti-DNMT1 antibody (A00172-1). DNMT1 was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-DNMT1 Antibody (A00172-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



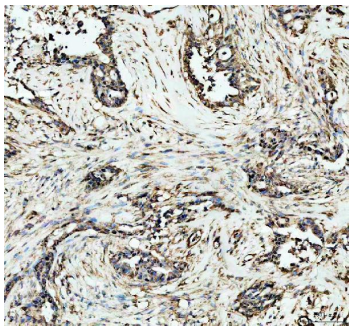
Decreased DNA methylation in apoptosis-related genes in MDA-MB-231 cells. (A) Immunofluorescence staining of DNMT1 in MDA-MB-231 cells. The nuclei (blue) were stained with DAPI. (***p < 0.001). (B) Western blotting analysis of DNMT1 protein (***p < 0.001). (C) The DNA methylation levels of genes involved in apoptosis and the PI3K–AKT pathway. (D) The top five pathways of downregulated DNA methylation genes were enriched. (E) Network of genes with downregulated methylation genes and genes (red) of the PI3K–AKT pathway. (F) Survival curves of the DNA methylation level of TSC1, FADD , and TRADD were analyzed by MethSurv. (All values from three independent experiments are quantified as mean ± SD, ***p < 0.001).Index in PubMed under a CC BY license. PMID: 33194583

6-TG treatment retarded tumor growth in vivo . (A) Drug-

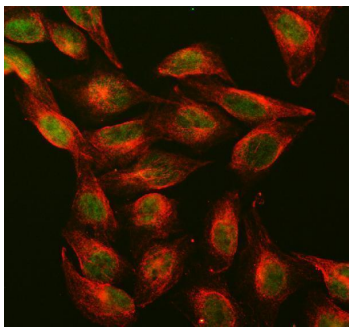
BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com



response curves of the MDA-MB-231 tumors. The data points represent the mean values ± SD of five independent experiments. The blue, red, and violet lines represent the control group, 6-TG group and docetaxel group,respectively. (B) Tumor morphology of the control group (top), 6-TG group (middle) and docetaxel group (bottom). (C) Weights of the final tumors. (D) Weight of mice during the treatment. X-axis indicated the days after implantation; Y-axis indicated the average weights of every groups. (E) The tumor sections were stained with HE. The positions indicated by the red arrow are pathological mitotic events. (Scale bar: 200 um) (F) Immunohistochemical staining of DNMT1 and caspase-3 antibodies in tumors. (Scale bar: 200 um). (G) The livers and kidneys from tumor bearing mice in control group and 6-TG group were stained with HE (Scale bar: 400 um). The red arrows pointed the central veins in livers. The black arrows pointed the renal corpuscles, and the black boxes pointed the proximal convoluted tubules. (All values from three independent experiments are quantified as mean ± SD, *p < 0.05, ***p < 0.001, ns indicates no significant).Index in PubMed under a CC BY license. PMID: 33194583



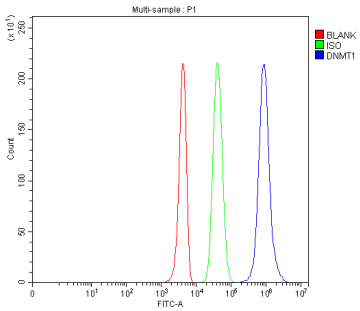
IHC analysis of DNMT1 using anti-DNMT1 antibody (A00172-1). DNMT1 was detected in a paraffin-embedded section of human pancrease cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-DNMT1 Antibody (A00172-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IF analysis of DNMT1 using anti-DNMT1 antibody (A00172-1) and anti-Tubulin Alpha antibody (M03989-3). DNMT1 was detected in immunocytochemical section of U2OS cell. 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 rabbit anti-DNMT1 Antibody (A00172-1) and mouse anti-Tubulin Alpha antibody (M03989-3) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) and DyLight®550 Conjugated Goat Anti-Mouse IgG (BA1127) were used as secondary antibody at 1:500 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 293T cells using anti-DNMT1 antibody (A00172-1). Overlay histogram showing 293T cells stained with A00172-1 (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 rabbit anti-DNMT1 Antibody (A00172-1, 1 ug/1x106

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com



cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit 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.

1 Publications Citing This Product

1. PubMed ID: 29389913, Shikonin Inhibites Migration and Invasion of Thyroid Cancer Cells by Downregulating DNMT1

Visit bosterbio.com/anti-dnmt1-picoband-trade-antibody-a00172-1-boster.html to see all 1 publications.

Anti-Dnmt1 Antibody

For Research Use Only. Not for use in diagnostic procedures.