Datasheet for ABIN6139745

anti-DNMT1 antibody (AA 1-270)

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Overview

Quantity:	100 µL
Target:	DNMT1
Binding Specificity:	AA 1-270
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This DNMT1 antibody is un-conjugated
Application:	Western Blotting (WB), Immunoprecipitation (IP), Immunofluorescence (IF)

Product Details

Immunogen:	Recombinant fusion protein containing a sequence corresponding to amino acids 1-270 of human DNMT1 (NP_001370.1).
Sequence:	MPARTAPARV PTLAVPAISL PDDVRRRLKD LERDSLTEKE CVKEKLNLLH EFLQTEIKNQ LCDLETKLRK EELSEEGYLA KVKSLLNKDL SLENGAHAYN REVNGRLENG NQARSEARRV GMADANSPPK PLSKPRTPRR SKSDGEAKPE PSPSPRITRK STRQTTITSH FAKGPAKRKP QEESERAKSD ESIKEEDKDQ DEKRRRVTSR ERVARPLPAE EPERAKSGTR TEKEEERDEK EEKRLRSQTK EPTPKQKLKE EPDREARAGV
Isotype:	IgG
Cross-Reactivity:	Human
Characteristics:	Polyclonal Antibodies
Purification:	Affinity purification

Target Details

Target:	DNMT1
Alternative Name:	DNMT1 (DNMT1 Products)
Background:	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.,ADCADN,AIM,CXXC9,DNMT,HSN1E,MCMT,m.HsaI,DNMT1,Epigenetics & Nuclear Signaling,Chromatin Modifying Enzymes,DNA methylation,DNMT1
Molecular Weight:	144 kDa/183 kDa/184 kDa
Gene ID:	1786
UniProt:	P26358
Pathways:	SARS-CoV-2 Protein Interactome, The Global Phosphorylation Landscape of SARS-CoV-2 Infection

Application Details

Application Notes:	WB,1:500 - 1:2000,IF,1:50 - 1:200,IP,1:50 - 1:100
Comment:	HIGH QUALITY
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	PBS with 0.02 % sodium azide,50 % glycerol, pH 7.3.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	Store at -20°C. Avoid freeze / thaw cycles.

Publications

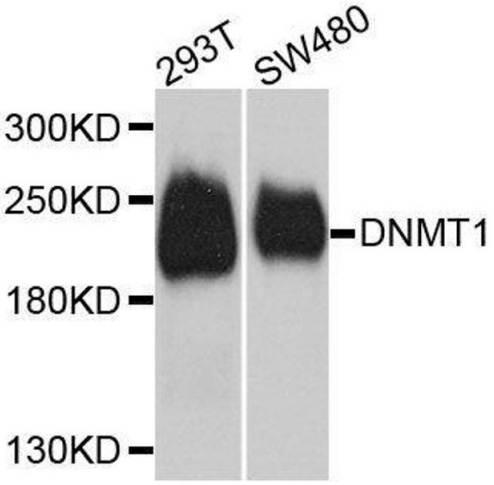
Product cited in:

Xie, Zhang, Wang, Zhao, Zhang, Yao, Hur, Yeh, Pang, Zheng, Fan, Kong, Wang, Chiu, Zhou: " Matrix stiffness determines the phenotype of vascular smooth muscle cell in vitro and in vivo: Role of DNA methyltransferase 1." in: **Biomaterials**, Vol. 155, pp. 203-216, (2018) (PubMed).

Wang, Li, Zhu, Lin, Luo, Zhao, Zhang, Li, Gao, Liang, Liu, Tsun, Yuan, Wu, Li: "DNMT1 cooperates with MBD4 to inhibit the expression of Glucocorticoid-induced TNFR-related protein in human T cells." in: **FEBS letters**, Vol. 591, Issue 13, pp. 1929-1939, (2017) (PubMed).

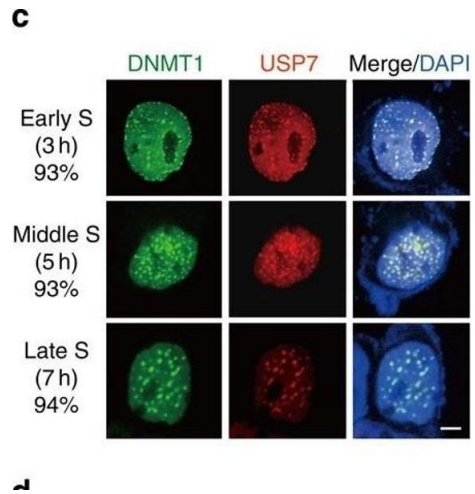
Xi, Gao, Yang, Ye, Zhang, Wu, Jiang, Zhang: "Anticancer drugs induce hypomethylation of the acetylcholinesterase promoter via a phosphorylated-p38-DNMT1-AChE pathway in apoptotic hepatocellular carcinoma cells." in: **The international journal of biochemistry & cell biology**, Vol. 68, pp. 21-32, (2016) (PubMed).

Images



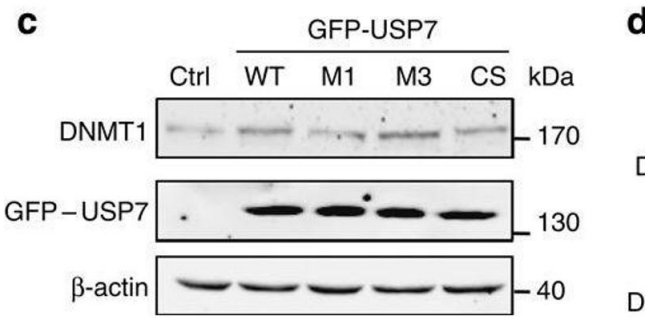
Western Blotting

Image 1. Western blot analysis of extracts of various cell lines, using DNMT1 antibody.



Immunofluorescence (Cultured Cells)

Image 2. Critical residues for the interaction between DNMT1 and USP7.(a,b) GST pull-down assays for DNMT1-USP7 interaction. Wild-type and mutant DNMT1 were incubated with wild-type and mutant GST-TUDUSP7 immobilized on glutathione resin. The bound proteins were analysed using SDS-PAGE and Coomassie blue staining. USP7M1: D758A/E759A/D764A, USP7M2: N630A/E744A. Molecular weight markers were shown as indicated. (c-e) Subcellular localization of DNMT1 and USP7 examined by



immunofluorescence. GFP-DNMT1 (wild-type and mutants) and RFP-USP7 (wild-type and mutants) were transiently expressed in HEK293T cells followed by double thymidine block. The cells were released at indicated time and used for immunofluorescence assays. DNA was visualized with DAPI staining. The representative staining is shown. The phases of the cell cycle and the percentage of the cells (among 100 cells) with representative staining are indicated. Scale bar, 5μm. - figure provided by CiteAb.

Western Blotting

Image 3. USP7-DNMT1 interaction is required for USP7-mediated stabilization of DNMT1.(a) DNMT1 protein levels in HEK293T cells stably expressing USP7 shRNAs. The protein levels were determined by immunoblotting, and the messenger RNA levels were determined by quantitative real-time PCR. The error bars represent ±s.d. from triplicate experiments. Uncropped blots are shown in Supplementary Fig. 7. (b) Effect of USP7-DNMT1 interaction on ubiquitination of DNMT1. HEK293T cells were cotransfected with either wild-type or mutant RFP-USP7 and HA-ubiquitin, followed by immunoprecipitation of DNMT1. Polyubiquitination was detected by immunoblotting with HA antibody. As input, the whole cell lysates were analysed by immunoblotting using the indicated antibodies. Uncropped blots are shown in Supplementary Fig. 7. (c) Effect of USP7-DNMT1 interaction on DNMT1 protein stability. HEK293T cells were infected with GFP-tagged wild-type and mutant USP7 lentivirus. The protein levels of DNMT1, USP7 and β-actin were determined (top), and the relative protein level of DNMT1 was quantified (bottom). The error bars represent ±s.d. from triplicate experiments. Uncropped blots are shown in Supplementary Fig. 7. (d) Protein stabilities of DNMT1 and DNMT14KQ. HEK293T cells stably expressing DNMT1 and DNMT14KQ were treated with CHX (100 μgml-

1) and harvested at the indicated time points. The expression levels of DNMT1 and β-actin were determined (top), and the relative DNMT1 protein level was quantified (bottom). Uncropped blots are shown in Supplementary Fig. 7. - figure provided by CiteAb.

Please check the product details page for more images. Overall 9 images are available for ABIN6139745.