

## Dnmt1(Phospho-Ser714) antibody

Catalog No: #12159

Package Size: #12159-1 50ul #12159-2 100ul

Orders: [order@signalwayantibody.com](mailto:order@signalwayantibody.com)Support: [tech@signalwayantibody.com](mailto:tech@signalwayantibody.com)

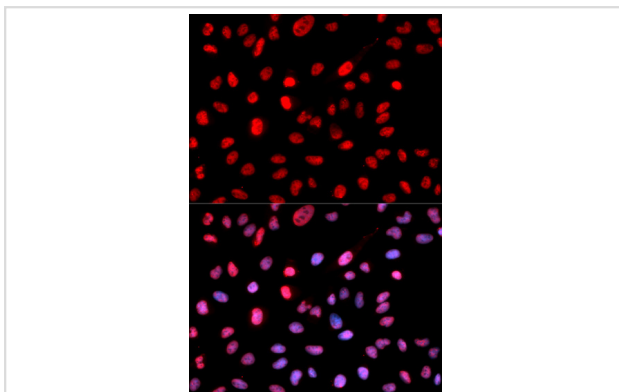
## Description

Product Name	Dnmt1(Phospho-Ser714) antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Antibodies were produced by immunizing rabbits with synthetic phosphopeptide and KLH conjugates. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. Non-phospho specific antibodies were removed by chromatography using non-phosphopeptide.
Applications	WB,IF
Species Reactivity	Human
Specificity	The antibody detects endogenous level of Dnmt1 only when phosphorylated at serine 714.
Immunogen Type	Peptide
Immunogen Description	A phospho specific peptide corresponding to residues surrounding S714 of human Dnmt1.
Target Name	Dnmt1
Modification	Phospho
Other Names	AIM; DNMT; MCMT; CXXC9; HSN1E; FLJ16293; MGC104992; DNMT1
Accession No.	Swiss-Prot#: P26358NCBI Gene ID: 1786
Uniprot	P26358
GeneID	1786;
SDS-PAGE MW	200kd
Concentration	1.0mg/ml
Formulation	Supplied at 1.0mg/mL in phosphate buffered saline (without Mg <sup>2+</sup> and Ca <sup>2+</sup> ), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Storage	Store at -20°C

## Application Details

WB □ 1:500 - 1:2000IF □ 1:50 - 1:200

## Images



Immunofluorescence analysis of MCF-7 cells using Phospho-Dnmt1-pS714 . Blue: DAPI for nuclear staining.

## Background

---

Methylation of DNA at cytosine residues in mammalian cells is a heritable, epigenetic modification that is critical for proper regulation of gene expression, genomic imprinting and development (1,2). Three families of mammalian DNA methyltransferases have been identified: DNMT1, DNMT2 and DNMT3 (1,2). DNMT1 is constitutively expressed in proliferating cells and functions as a maintenance methyltransferase, transferring proper methylation patterns to newly synthesized DNA during replication. DNMT3A and DNMT3B are strongly expressed in embryonic stem cells with reduced expression in adult somatic tissues. DNMT3A and DNMT3B function as de novo methyltransferases that methylate previously unmethylated regions of DNA. DNMT2 is expressed at low levels in adult somatic tissues and its inactivation affects neither de novo nor maintenance DNA methylation. DNMT1, DNMT3A and DNMT3B together form a protein complex that interacts with histone deacetylases (HDAC1, HDAC2, Sin3A), transcriptional repressor proteins (RB, TAZ-1) and heterochromatin proteins (HP1, SUV39H1), to maintain proper levels of DNA methylation and facilitate gene silencing (3-8). Improper DNA methylation contributes to diseased states such as cancer (1,2). Hypermethylation of promoter CpG islands within tumor suppressor genes correlates with gene silencing and the development of cancer. In addition, hypomethylation of bulk genomic DNA correlates with and may contribute to the onset of cancer. DNMT1, DNMT3A and DNMT3B are over-expressed in many cancers, including acute and chronic myelogenous leukemias, in addition to colon, breast and stomach carcinomas (9-12).

---

Note: This product is for in vitro research use only