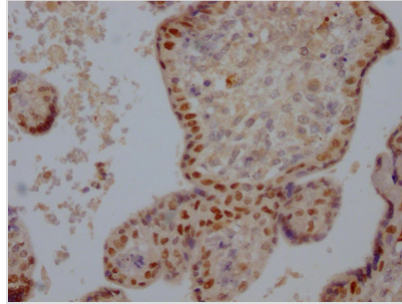


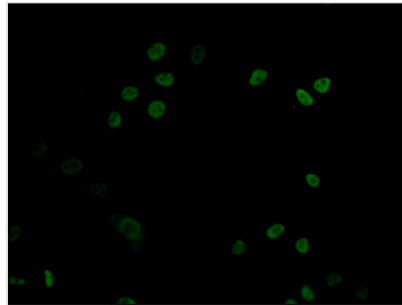


# DNMT1 Antibody

<b>Product Code</b>	CSB-RA160202A0HU
<b>Storage</b>	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
<b>Uniprot No.</b>	P26358
<b>Immunogen</b>	A synthesized peptide derived from human Dnmt1
<b>Species Reactivity</b>	Human
<b>Tested Applications</b>	ELISA, IHC, IF; Recommended dilution: IHC:1:50-1:200, IF:1:20-1:200
<b>Relevance</b>	<p>Methylates CpG residues. Preferentially methylates hemimethylated DNA. Associates with DNA replication sites in S phase maintaining the methylation pattern in the newly synthesized strand, that is essential for epigenetic inheritance. Associates with chromatin during G2 and M phases to maintain DNA methylation independently of replication. It is responsible for maintaining methylation patterns established in development. DNA methylation is coordinated with methylation of histones. Mediates transcriptional repression by direct binding to HDAC2. In association with DNMT3B and via the recruitment of CTCFL/BORIS, involved in activation of BAG1 gene expression by modulating dimethylation of promoter histone H3 at H3K4 and H3K9. Probably forms a corepressor complex required for activated KRAS-mediated promoter hypermethylation and transcriptional silencing of tumor suppressor genes (TSGs) or other tumor-related genes in colorectal cancer (CRC) cells (PubMed:24623306). Also required to maintain a transcriptionally repressive state of genes in undifferentiated embryonic stem cells (ESCs) (PubMed:24623306). Associates at promoter regions of tumor suppressor genes (TSGs) leading to their gene silencing (PubMed:24623306). Promotes tumor growth (PubMed:24623306).</p>
<b>Form</b>	Liquid
<b>Conjugate</b>	Non-conjugated
<b>Storage Buffer</b>	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
<b>Purification Method</b>	Affinity-chromatography
<b>Isotype</b>	Rabbit IgG
<b>Clonality</b>	Monoclonal
<b>Product Type</b>	Recombinant Antibody
<b>Immunogen Species</b>	Homo sapiens (Human)
<b>Research Area</b>	Epigenetics and Nuclear Signaling
<b>Gene Names</b>	DNMT1
<b>Accession NO.</b>	1A9
<b>Image</b>	



IHC image of CSB-RA160202A0HU diluted at 1:100 and staining in paraffin-embedded human placenta tissue performed on a Leica Bond™ system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



Immunofluorescence staining of HepG2 Cells with CSB-RA160202A0HU at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% TritonX-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).

## Description

DNMT1 is responsible for maintaining pre-existing methylation patterns by methylating hemimethylated DNA after replication. DNMT1 is required for the maintenance of all methylation in the genome. During replication, DNMT1 restores the specific methylation pattern on the daughter strand in accordance with that of the parental DNA. Overexpression of DNMT1 correlates well with aberrant DNA methylation in solid tumors, thus resulting in lymph node metastasis and poor prognosis in patients. Zhao et al. have shown that DNMT1 knockdown has an inhibitory effect on the cell cycle in esophageal squamous cell carcinoma, indicating that increased methylation levels promote cell mitosis.

The recombinant DNMT1 antibody was produced by cloning antibody genes into an expression vectors, which were subsequently introduced into mammalian cells to provide animal-free antibody production. This DNMT1 antibody has been validated in ELISA, IHC, IF. It has the features of improved affinity, stability, and consistency between different batches.