

## DNMT1 monomethyl Lys142 antibody (pAb)

**Catalog Nos:** 61497, 61498

**RRID:** AB\_2793659

**Isotype:** IgG

**Application(s):** WB

**Reactivity:** Human

**Volumes:** 100 µl, 10 µl

**Purification:** Affinity Purified

**Host:** Rabbit

**Molecular Weight:** 200 kDa

**Background:** DNMT1 (DNA (Cytosine-5-)-Methyltransferase 1) 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.

Methylation at lysine 142 by SETD7 promotes DNMT1 proteasomal degradation while phosphorylation of serine 143 via AKT blocks degradation. These modifications appear to play an important role in regulating DNMT enzyme activity and thus levels of DNA methylation.

**Immunogen:** This antibody was raised against a peptide including monomethyl lysine 142 of human DNMT1.

**Buffer:** Purified IgG in PBS with 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

**Application Notes:**

Applications Validated by Active Motif:

WB\*: 1:500 - 1:1,000 dilution

\*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western blot.

For DNMT1, we also offer AbFlex® DNMT1 Recombinant Antibody (rAb). For details, see Catalog No. 91175.

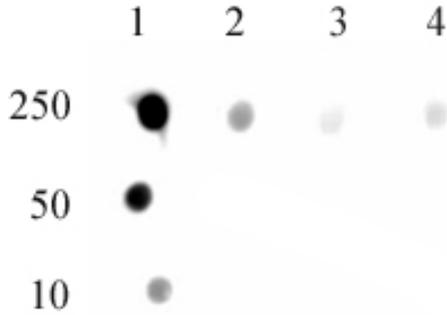
**Storage and Guarantee:** Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.

— 460  
 — 268  
 — 171  
 — 117  
 — 71  
 — 55  
 — 41  
 — 31

**DNMT1 monomethyl Lys142 antibody (pAb) tested by Western blot.**

Nuclear extract of HeLa cells (40 µg) probed with DNMT1 monomethyl Lys142 antibody (1:500).



**DNMT1 monomethyl Lys142 antibody (pAb) tested by dot blot analysis.**

Dot blot analysis was used to confirm the specificity of DNMT1 monomethyl Lys142. Peptides corresponding to the immunogen and the unmodified version of the immunogen were spotted onto PVDF and probed with the antibody at 1:100,000. The amount of peptide (picomoles) spotted is indicated next to each row.

- Lane 1: Monomethyl Lys142 peptide.
- Lane 2: Dimethyl lysine 142 peptide.
- Lane 3: Trimethyl lysine 142 peptide.
- Lane 4: Unmodified lysine 142 peptide.