

## Histone H3T45ph antibody (pAb)

**Catalog Nos:** 39737, 39738

**RRID:** AB\_2793326

**Isotype:** IgG

**Application(s):** DB, WB

**Reactivity:** Budding Yeast, Human, Wide Range Predicted

**Volumes:** 100  $\mu$ l, 10  $\mu$ l

**Purification:** Affinity Purified

**Host:** Rabbit

**Molecular Weight:** 17 kDa

**Background:** Histone H3 is one of the core components of the nucleosome. The nucleosome is the smallest subunit of chromatin and consists of 147 base pairs of DNA wrapped around an octamer of core histone proteins (two each of histone H2A, histone H2B, histone H3 and histone H4). Histones are subject to a number of post-translational modifications, including acetylation, phosphorylation and methylation. In budding yeast, H3 Thr45 phosphorylation occurs specifically during DNA replication, and is catalyzed by the Cdc7–Dbf4 kinase. Yeast that lack threonine 45 exhibit defects in replication, suggesting that phosphorylation of Thr45 is associated with DNA replication. Threonine 45 lies within a conserved region of histone H3 that makes critical contacts with DNA when assembled into chromatin. It is located at the points of entry and exit of DNA on the nucleosome, and phosphorylation may influence histone-DNA interactions within the nucleosome.

**Immunogen:** This Histone H3 phospho Thr45 antibody was raised against a peptide containing phospho Thr45 of human histone H3.

**Buffer:** Purified IgG in 70 mM Tris (pH 8), 105 mM NaCl, 31 mM glycine, 0.07 mM EDTA, 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

**Application Notes:**

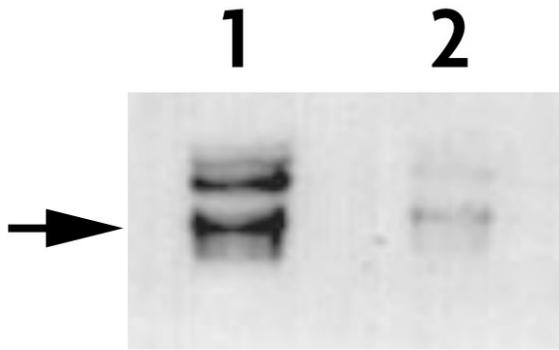
Applications Validated by Active Motif:

WB: 1:2,000 - 1:10,000 dilution

This modification is extremely labile so non-denatured samples should not be allowed to sit in aqueous buffer. For Western blotting, overnight transfer at low voltage is recommended.

**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.



**Histone H3 phospho Thr45 antibody (pAb) tested by Western blot.**

Yeast extracts from a wild type strain (Lane 1) and a strain in which threonine 45 has been mutated to an alanine (T45A, Lane 2) were blotted and probed with Histone H3 phospho Thr45 antibody (pAb) at a dilution of 1:10,000. The arrow represents the migration of histone H3.

Note that both the upper and lower bands disappear in the T45A mutant, suggesting that the upper band represents a post-translational modification of histone H3 that causes a dramatic decrease in gel mobility.

**Histone H3 phospho Thr45 antibody (pAb) tested by dot blot analysis.**

Dot blot analysis was used to confirm the specificity of Histone H3 phospho Thr45 antibody (pAb) for Histone H3 phospho Thr45. Peptides corresponding to the immunogen and related peptides were spotted onto PVDF and probed with Histone H3 phospho Thr45 antibody (pAb) at 1:5,000. The amount of peptide (picomoles) spotted is indicated next to each row



Lane 1: phospho Thr45 peptide. Lane 2: unmodified Thr45 peptide. Lane 3: phospho Thr3 peptide. Lane 4: phospho Thr6 peptide. Lane 5: phospho Thr11 peptide. Lane 6: phospho Thr80 peptide. Lane 7: phospho Ser10 peptide. Lane 8: phospho Ser28 peptide.