Histone H3.3K27M antibody (pAb)

Catalog Nos: 61803, 61804
RRID: AB_2793773
Isotype: IgG
Application(s): WB
Reactivity: Human

Volumes: 100 µl, 10 µl
Purification: Affinity Purified
Host: Rabbit

Background: Histone H3 is one of the core components of the nucleosome. The nucleosome is the smallest subunit of chromatin and consists of 146 base pairs of DNA wrapped around an octamer of core histone proteins (two each of H2A, H2B, H3 and H4). Histone H1 is a linker protein, present at the interface between the nucleosome core and DNA entry/exit points.Histone H3.1 and Histone H3.3 are the two main Histone H3 variants found in plants and animals. They are known to be important for gene regulation. Histone H3.1 and H3.3 have been shown to demonstrate unique genomic localization patterns thought to be associated with their specific functions in regulation of gene activity. Specifically, Histone H3.1 localization is found to coincide with genomic regions containing chromatin repressive marks (H3K9me3, H3K27me3 and DNA methylation), whereas Histone H3.3 primarily colocalizes with marks associated with gene activation (H3K4me3, H2BK120ub1, and RNA pol II occupancy). Deposition of the Histone H3.1 variant into the nucleosome correlates with the canonical DNA synthesis-dependent deposition pathway, whereas Histone H3.3 primarily serves as the replacement Histone H3 variant outside of S-phase, such as during gene transcription.Histone H3.3 point mutations (K27 and G34) are present in 1/3 of pediatric glioblastomas. Up to 78% of diffuse intrinsic pontine gliomas (DIPGs) carries K27M and 36% of non-brainstem gliomas carries either K27M or G34R/V mutations. H3.3K27M expression synergizes with p53 loss and PDGFRA activation in neural progenitor cells derived from human embryonic stem cells, resulting in neoplastic transformation.

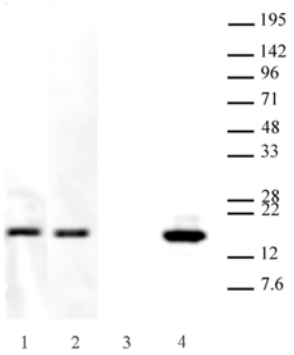
Immunogen: This antibody was generated using a Peptide containing a Methionine substitution at lysine 27 of human Histone H3.

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:
Western Blot: 1 - 2 µg/ml

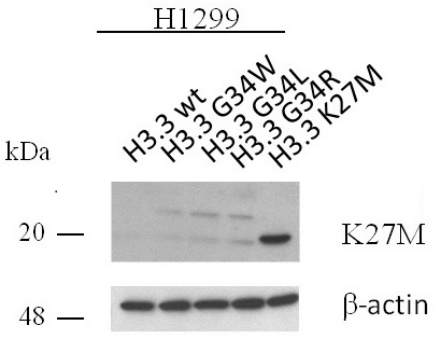
Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product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

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



Western blot analysis of Hantibody specificity for Histone H3.3K27M

0.1 µg per lane of Recombinant Human Histone H3.3 Cat. No. 31295 (Lanes 1 & 3) or Recombinant Human Histone H3.3K27M Cat. No. 31552 (Lanes 2 & 4) were probed with AbFlex® Histone H3.3 antibody (rAb), Cat. No. 91191 at 2µg/ml (Lanes 1 & 2) or Histone H3.3K27M antibody (pAb) at 0.05 µg/ml.



Western blot of Histone H3.3K27M pAb.

H1299 cell extracts transfected with human Histone H3.3 wild-type (wt) or various Histone H3.3 single amino acid substitutions were probed with Histone H3.3K27M antibody (pAb) at 2 µg/ml. Beta-actin was used as a loading control.