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Monoclonal Antibody to Histone H3 pSer28 - Purified

Alternate names: H3 Histone family, HIST1H3

Catalog No.: AM33078PU-N

Quantity: 0.1 mg

Concentration: 0.5 mg/ml

Background: H3 is a core component of the nucleosome that serves to wrap and compact DNA into chromatin.Histones therefore, limit the accessibility of DNA, providing mechanisms for transcription regulation, DNA repair and replication and chromosomal stability.During mitosis, H3 is phosphorylated at serine 28.This phosphorylation coincides with chromosome condensation initiated at prophase and disappears at late anaphase H3 has been demonstrated to be phosphorylated by the action of MLTK-α (mixed linage kinase-like mitogen activated protein triple kinase α) in response to ultraviolet B light and epidermal growth factor, as well as Aurora-B during mitosis.
Structure: H3 is part of the nucleosome, comprised of an octameric complex with H2A, H2B, and H4 proteins.
Distribution: Nucleus.
Function: H3 is a core component of the nucleosome that serves to wrap and compact DNA into chromatin. Histones therefore, limit the accessibility of DNA, providing mechanisms for transcription regulation, DNA repair and replication and chromosomal stability.
Regulation: H3 is regulated by acetylation, methylation, citrullination, phosphorylation, and ubiquitination.
Interaction: Two molecules of H3 form a heterotetramer with two molecules of H4.

Host / Isotype: Rat / IgG2a

Recommended Isotype Controls: SM15P, SM15PX

Clone: HTA28

Immunogen: Synthetic peptide conjugated to KLH, corresponding to amino acids 23-35 of Human Histone H3.

Format:
State: Liquid purified IgG fraction
Purification: Affinity Chromatography
Buffer System: PBS, pH 7.2
Preservatives: 0.09% Sodium Azide

Applications:
Western blot: Each lot of this antibody is quality control tested.
Recommended Dilutions: Use 5 µg/ml antibody per 5 ml antibody dilution buffer for each mini-gel.
Mass Cytometry.
Immunofluorescence (Reported).
Immunoprecipitation (Reported).

Intracellular Flow Cytometry (Reported).
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

The *HTA28* monoclonal antibody recognizes Histone H3-Phosphorylated (Ser28).
Species: Human.
Other species not tested.

Storage:

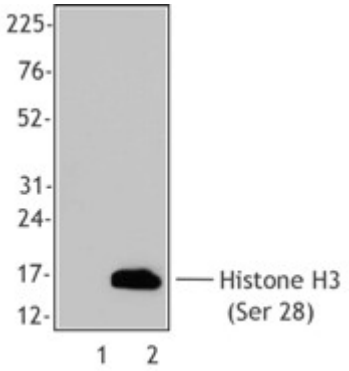
Store undiluted at 2-8°C.
DO NOT FREEZE!
Shelf life: one year from despatch.

General Readings:

1. Hirata A, Inada K, Tsukamoto T, Sakai H, Mizoshita T, Yanai T, et al. Characterization of a monoclonal antibody, HTA28, recognizing a histone H3 phosphorylation site as a useful marker of M-phase cells. J Histochem Cytochem. 2004 Nov;52(11):1503-9. PubMed PMID: 15505345.
2. Goto H, Tomono Y, Ajiro K, Kosako H, Fujita M, Sakurai M, et al. Identification of a novel phosphorylation site on histone H3 coupled with mitotic chromosome condensation. J Biol Chem. 1999 Sep 3;274(36):25543-9. PubMed PMID: 10464286.
3. Ozawa K. Reduction of phosphorylated histone H3 serine 10 and serine 28 cell cycle marker intensities after DNA damage. Cytometry A. 2008 Jun;73(6):517-27. doi: 10.1002/cyto.a.20559. PubMed PMID: 18395832.

Pictures:

Western blot analysis of extracts from untreated Hela cells (lane 1) or overnight nocodazole-treated Hela cells (lane 2), using anti-phospho-Histone H3 (Ser28), clone HTA28.



Untreated HeLa (Panel A) and overnight nocodazoled-treated HeLa (Panel B) were stained with purified rat monoclonal antibody against phospho-H3 (Ser28) (clone HTA28), followed by Alexa Fluor® 488 anti-alpha-tubulin, DyLight™ 594 goat anti-rat-IgG and DAPI.