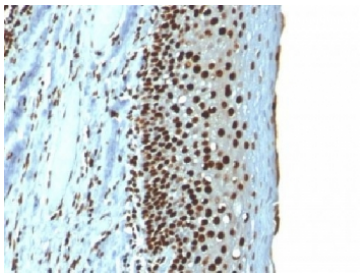
Histone H1 Antibody / Nuclear Architecture Chromatin Domain Antibody [clone r1415-1] (V3735)

Catalog No.	Formulation	Size
V3735-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3735-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3735SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3735IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

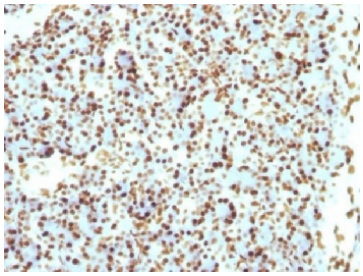
Recombinant MOUSE MONOCLONAL

Bulk quote request

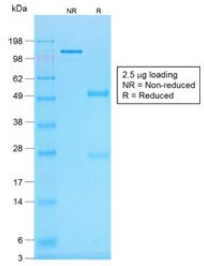
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG2a, kappa
Clone Name	r1415-1
Purity	Protein G affinity chromatography
UniProt	P07305
Localization	Nuclear
Applications	Flow cytometry: 1-2ug/million cells Immunofluorescence: 0.5-1ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT Western blot: 1-2ug/ml
Limitations	This recombinant Histone H1 antibody is available for research use only.



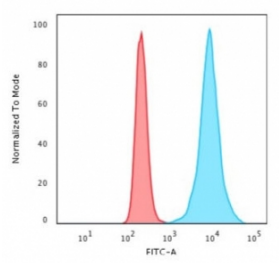
Histone H1 Antibody for IHC. Immunohistochemistry analysis of nuclear architecture-associated histone H1 expression in FFPE human tonsil tissue using Histone H1 Antibody. Nuclear HRP-DAB brown staining is observed in lymphoid cells, consistent with localization of linker histone H1 within chromatin domains and its role in chromatin compartmentalization and nuclear organization. Clone r1415-1 antibody demonstrates strong nuclear compartmentalization with minimal cytoplasmic staining, reflecting chromatin-associated distribution across organized nuclear domains.



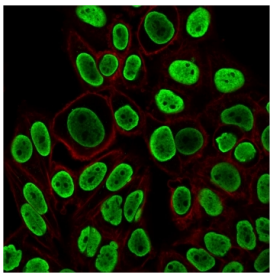
IHC testing of FFPE rat pancreas with recombinant Histone H1 antibody (clone r1415-1). Required HIER: boil tissue sections in 10mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min.



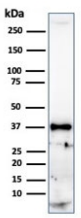
SDS-PAGE analysis of purified, BSA-free recombinant Histone H1 antibody (clone r1415-1) as confirmation of integrity and purity.



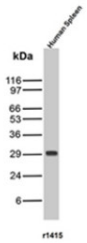
Flow cytometry testing of permeabilzed human HeLa cells with recombinant Histone H1 antibody (clone r1415-1); Red=isotype control, Blue= recombinant Histone H1 antibody.



Histone H1 Antibody for IF. Immunofluorescence analysis of nuclear architecture-associated histone H1 expression in PFA-fixed human HeLa cells using Histone H1 Antibody (green). Strong nuclear staining is observed, consistent with localization of linker histone H1 within chromatin domains and its role in chromatin compartmentalization and nuclear organization. Clone r1415-1 antibody demonstrates uniform nuclear enrichment with minimal cytoplasmic signal, reflecting chromatin-associated distribution across organized nuclear domains. Actin filaments are labeled with phalloidin (red), providing cytoskeletal contrast to the chromatin-associated histone signal.



Histone H1 Antibody for WB. Western blot analysis of nuclear architecture-associated histone H1 expression in human heart tissue lysate. A band is detected at approximately 22-33 kDa, consistent with the predicted molecular weight range of Histone H1 family proteins, with lower bands corresponding to unmodified forms and higher bands reflecting post-translationally modified variants. The observed band pattern aligns with the role of histone H1 in chromatin domain organization and nuclear architecture.



Histone H1 Antibody r1415-1 in Human Spleen WB. Western blot testing of clone r1415-1 in human spleen tissue lysate. A strong, discrete band is observed at approximately 29 kDa, consistent with detection of linker histone H1. This Histone H1 Antibody supports studies of linker histones in chromatin organization and nuclear architecture.

Description

Histone H1 is a linker histone that plays a central role in organizing chromatin into higher-order nuclear domains and maintaining overall nuclear architecture. Histone H1 Antibody detects H1 protein associated with chromatin compartmentalization, where linker histones contribute to the spatial arrangement of the genome within the nucleus. Unlike functions focused solely on nucleosome spacing or chromatin condensation, this role emphasizes how chromatin is partitioned into structurally and functionally distinct nuclear domains. This antibody is part of our broader Histone H1 antibody collection, including linker histone variants, chromatin organization, chromatin accessibility, and nuclear architecture reagents for chromatin and epigenetics research.

Histone H1 antibody, also referred to as H1 antibody or linker histone antibody in the literature, is widely used to investigate chromatin organization at the level of nuclear architecture. Histone H1 binds to linker DNA and promotes interactions between nucleosome arrays, enabling chromatin to form higher-order domains that occupy defined nuclear regions. These domains contribute to the organization of the genome into compartments that support coordinated genome function.

Clone r1415-1 antibody is the recombinant mouse version of the well-established 1415-1 clone, designed to provide improved consistency and reproducibility while maintaining the binding characteristics of the original antibody. Clone r1415-1 antibody enables reliable detection of histone H1 in studies focused on nuclear organization and chromatin domain structure, supporting reproducible analysis across experimental systems.

Mechanistically, histone H1 contributes to nuclear architecture by stabilizing linker DNA geometry and facilitating long-range chromatin interactions. These interactions promote the formation of chromatin domains that are spatially organized within the nucleus. This organization is essential for maintaining genome integrity and supporting proper chromatin structure at a global level.

Histone H1-mediated chromatin compartmentalization links local nucleosome organization to large-scale genome architecture. By influencing how chromatin is arranged within the nucleus, histone H1 helps define the structural framework of the genome. This distinguishes its architectural role from its functions in chromatin condensation or nucleosome spacing, which operate at smaller structural scales.

Alterations in histone H1 distribution can disrupt nuclear architecture and affect chromatin domain organization. These changes can influence genome organization and structural chromatin integrity, highlighting the importance of histone H1 in maintaining stable nuclear structure across different cellular states.

The role of histone H1 in nuclear architecture is dynamic and responsive to cellular context, reflecting its involvement in organizing chromatin domains in both proliferating and differentiated cells. Detection of histone H1 in this context provides insight into the spatial organization of chromatin and the structural arrangement of the genome within the nucleus.

A recombinant mouse monoclonal antibody such as clone r1415-1 enables consistent detection of linker histone associated with nuclear architecture and chromatin domain organization, supporting studies of genome organization, chromatin compartmentalization, and structural chromatin biology.

For additional information on linker histone H1 and a highly published monoclonal antibody, visit our Histone H1 Antibody AE-4 / Total Linker Histone H1 Chromatin Antibody page.

Application Notes

Optimal dilution of the Histone H1 Antibody / Nuclear Architecture Chromatin Domain Antibody should be determined by the researcher.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.
2. View the non-recombinant version of this Histone H1 antibody.

Immunogen

Nuclei of human leukemia biopsy cells were used as the immunogen for the Histone H1 Antibody / Nuclear Architecture Chromatin Domain Antibody.

Storage

Store the recombinant Histone H1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Histone H1 antibody, H1 antibody, nuclear architecture histone H1 antibody, chromatin domain H1 antibody

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