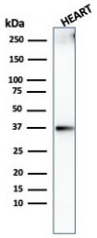
Histone H1 Antibody / Replication-Coupled Chromatin Assembly Antibody [clone AE-4] (V7837)

Catalog No.	Formulation	Size
V7837-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7837-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7837SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

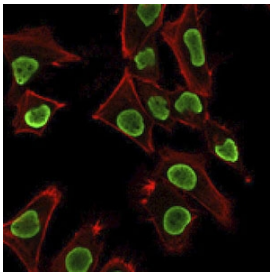
Recombinant RABBIT MONOCLONAL

Bulk quote request

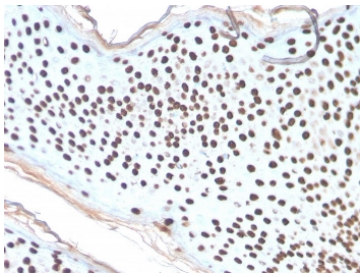
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	AE-4
Purity	Protein A affinity chromatography
UniProt	P07305
Localization	Nuclear
Applications	Flow Cytometry : 1-2ug/million cells in 0.1ml Immunofluorescence : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 1-2ug/ml
Limitations	This recombinant Histone H1 antibody is available for research use only.



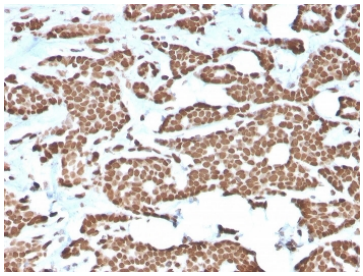
Histone H1 Antibody for WB. Western blot analysis of replication-associated histone H1 expression in human heart tissue lysate. A band is detected at approximately 27-33 kDa, compared to the predicted molecular weight of Histone H1 family proteins at approximately 20 kDa. The higher apparent molecular weight is consistent with post-translational modifications such as phosphorylation, which can alter electrophoretic mobility of linker histone H1 during replication-coupled chromatin assembly. The recombinant rabbit clone AE-4 antibody demonstrates detection of modified histone H1 species associated with chromatin reorganization.



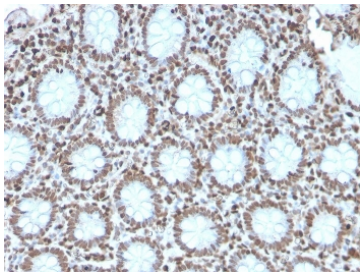
Histone H1 Antibody for IF. Immunofluorescence analysis of replication-associated histone H1 expression in PFA-fixed human HeLa cells using Histone H1 Antibody (green). Strong nuclear staining is observed, consistent with localization of linker histone H1 within chromatin and its role in chromatin organization during replication-coupled chromatin assembly. The recombinant rabbit clone AE-4 antibody demonstrates uniform nuclear enrichment with minimal cytoplasmic signal. Actin filaments are labeled with phalloidin (red), providing cytoskeletal contrast to the chromatin-associated histone signal.



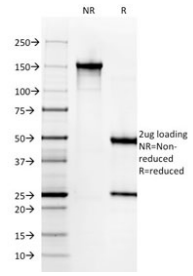
IHC staining of FFPE human skin basal cell carcinoma with recombinant Histone H1 antibody (clone AE-4). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min and allow to cool before testing.



IHC staining of FFPE human breast carcinoma with recombinant Histone H1 antibody (clone AE-4). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min and allow to cool before testing.



Histone H1 Antibody for IHC. Immunohistochemistry analysis of replication-associated histone H1 expression in FFPE human colon carcinoma tissue using Histone H1 Antibody. Nuclear HRP-DAB brown staining is observed in tumor epithelial cells, consistent with localization of linker histone H1 within chromatin and its role in chromatin organization during replication-coupled chromatin assembly. The recombinant rabbit clone AE-4 antibody demonstrates strong nuclear compartmentalization with minimal cytoplasmic staining, reflecting chromatin-associated distribution in proliferative tumor regions.



SDS-PAGE analysis of purified, BSA-free recombinant Histone H1 antibody (clone AE-4) as confirmation of integrity and purity.

Description

Histone H1 is a linker histone that plays a critical role in chromatin organization during DNA replication and replication-coupled chromatin assembly. Histone H1 Antibody detects H1 protein associated with newly assembled chromatin, where linker histones stabilize nucleosome arrays and contribute to the re-establishment of higher-order chromatin structure following DNA synthesis. This positioning highlights histone H1 as an important structural component in maintaining chromatin integrity during genome duplication. 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 study chromatin organization during S-phase. During DNA replication, newly synthesized DNA must be rapidly assembled into chromatin through coordinated deposition of core histones followed by incorporation of linker histones. Histone H1 contributes to this process by binding to linker DNA and organizing nucleosome arrays into structured chromatin.

Clone AE-4 antibody is available in both a traditional mouse monoclonal format and a recombinant rabbit monoclonal format. The recombinant rabbit version of clone AE-4 is designed to provide improved consistency and reproducibility while maintaining the binding characteristics of the original mouse clone. This dual format can introduce naming overlap, but both versions are directed against histone H1 and support studies of chromatin organization.

Mechanistically, histone H1 is incorporated into chromatin following nucleosome assembly, where it stabilizes linker DNA and promotes interactions between adjacent nucleosomes. This facilitates the transition from newly assembled nucleosome arrays to more structured chromatin configurations. Proper incorporation of histone H1 is essential for maintaining chromatin organization during replication.

Replication-coupled chromatin assembly requires precise coordination between histone deposition and chromatin organization. Histone H1 plays a key role in this process by ensuring that newly assembled chromatin adopts a stable and functional structure. Disruption of H1 incorporation can lead to altered chromatin organization and compromise genome stability.

In contrast to roles focused on static chromatin structure, the function of histone H1 in replication emphasizes its involvement in dynamic chromatin reorganization. This makes it particularly relevant for studies of proliferating cells and chromatin assembly mechanisms during the cell cycle.

A recombinant rabbit monoclonal antibody such as clone AE-4 enables consistent detection of histone H1 in replication-associated chromatin, supporting studies of chromatin assembly, genome duplication, and cell cycle-dependent chromatin organization.

Application Notes

Optimal dilution of the Histone H1 Antibody / Replication-Coupled Chromatin Assembly Antibody should be determined by the researcher.

Immunogen

Nuclei of human leukemia biopsy cells were used as the immunogen for this Histone H1 Antibody / Replication-Coupled Chromatin Assembly 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, replication chromatin histone H1 antibody, S-phase chromatin H1 antibody