

H1-7 Antibody / Histone H1.7 (FY12731)

Catalog No.	Formulation	Size
FY12731	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q75WM6
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This H1-7 antibody is available for research use only.

Description

H1-7 antibody detects Histone H1.7 (also known as H1t or Testis-specific H1 histone), a linker histone variant involved in chromatin compaction and transcriptional regulation during spermatogenesis. Encoded by the H1-7 gene on chromosome 6p22.2, this protein belongs to the histone H1 family that binds to nucleosomal DNA between core particles, stabilizing higher-order chromatin structure. H1.7 exhibits distinct biochemical properties compared with somatic H1 variants, including reduced DNA-binding affinity and enhanced chromatin mobility, which facilitate the chromatin remodeling required for germ cell development.

H1.7 is expressed almost exclusively in testicular germ cells, particularly in pachytene spermatocytes and round spermatids, where chromatin undergoes extensive reorganization. It replaces somatic H1 variants during meiotic and post-meiotic stages, allowing transcriptional flexibility essential for spermatogenic gene expression. H1.7 contributes to chromatin condensation preceding the histone-to-protamine transition that culminates in sperm chromatin packaging. The developmental restriction and unique structural properties of H1.7 make it an important model for studying chromatin dynamics and gene regulation in reproductive cells.

The H1-7 antibody is extensively used in chromatin biology and reproductive research to detect this testis-specific linker

histone. Western blot analysis typically identifies a 22 kilodalton band corresponding to H1.7, while immunohistochemistry reveals nuclear localization in spermatocytes and spermatids. Expression of H1.7 is temporally regulated during spermatogenesis, peaking in mid- to late-meiotic cells. The antibody aids in distinguishing stages of germ cell development and in analyzing chromatin remodeling events that occur during sperm maturation.

Beyond reproduction, studies of H1.7 provide insights into histone variant specialization and epigenetic regulation. Its distinct sequence and phosphorylation sites confer specialized interactions with chromatin remodeling complexes and transcriptional regulators. Comparative analyses using the H1-7 antibody reveal how testis-specific histones maintain genomic integrity while supporting dynamic transcription in germ cells. NSJ Bioreagents supplies this antibody validated for western blotting, immunofluorescence, and immunohistochemistry, ensuring precise detection of Histone H1.7 in reproductive and epigenetic research contexts.

Application Notes

Optimal dilution of the H1-7 antibody should be determined by the researcher.

Immunogen

E.coli-derived human H1-7 recombinant protein (Position: H35-R130) was used as the immunogen for the H1-7 antibody.

Storage

After reconstitution, the H1-7 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.