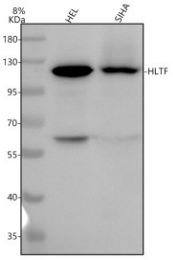
SMARCA3 Antibody 23H05 / HLTF Monoclonal Antibody [clone 23H05] (FY13677)

Catalog No.	Formulation	Size
FY13677	Rabbit IgG in stabilizing components, phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol	100 ul

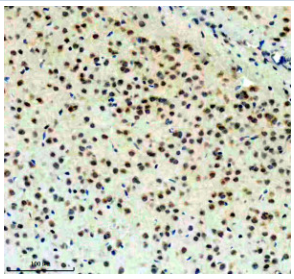
Recombinant RABBIT MONOCLONAL

Bulk quote request

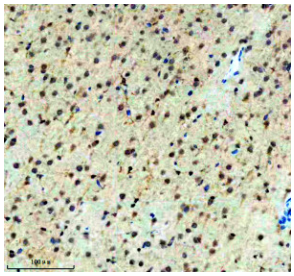
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	23H05
Purity	Affinity purified
UniProt	Q14527
Applications	Western blot: 1:1000 Immunohistochemistry (FFPE): 1:50
Limitations	This SMARCA3 Antibody 23H05 / HLTF Monoclonal Antibody is available for research use only.



SMARCA3 Antibody WB in Human HEL and SiHa Cells. Western blot analysis of human HEL (lane 1) and SiHa (lane 2) whole cell lysates using the HLTF Monoclonal Antibody. A prominent band is detected at approximately 114-120 kDa in both samples, consistent with the calculated molecular weight of HLTF (~114 kDa). An additional band is visible near 60 kDa, particularly in the HEL lysate.



SMARCA3 Antibody IHC in Mouse Brain. Immunohistochemical staining of FFPE mouse brain tissue using the HLTF Monoclonal Antibody at 1:50. Brown DAB staining is observed in numerous cell nuclei, with variable intensity among individual cells and comparatively limited cytoplasmic labeling. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8.0), followed by overnight primary antibody incubation at 4Â°C and HRP-DAB detection.



SMARCA3 Antibody IHC in Rat Brain. Immunohistochemical staining of FFPE rat brain tissue using the HLTF Monoclonal Antibody at 1:50. Brown DAB staining is predominantly nuclear in scattered cells throughout the tissue, with variable staining intensity and relatively weak labeling of the surrounding neuropil. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8.0), followed by overnight primary antibody incubation at 4Â°C and HRP-DAB detection.

Description

SMARCA3 Antibody 23H05 / HLTF Monoclonal Antibody recognizes helicase-like transcription factor (HLTF), an ATP-dependent DNA translocase encoded by the HLTF gene. Also known as SMARCA3, this protein belongs to the SWI/SNF-related family of ATP-dependent chromatin regulators and participates in DNA damage tolerance, replication fork remodeling, and genome maintenance. HLTF combines DNA translocation activity with E3 ubiquitin ligase function, allowing it to coordinate responses to replication stress through distinct but complementary biochemical mechanisms.

One of the principal functions of HLTF involves the regulation of proliferating cell nuclear antigen (PCNA), a sliding clamp that supports DNA replication and repair. HLTF contains a RING domain that contributes to the K63-linked polyubiquitination of PCNA, a modification associated with error-free DNA damage tolerance. This pathway helps cells manage replication-blocking DNA lesions without necessarily introducing mutations through specialized translesion DNA polymerases. HLTF also possesses ATP-dependent DNA translocase activity that promotes replication fork reversal, allowing newly synthesized DNA strands to pair and form a four-way DNA structure. Fork remodeling can facilitate lesion bypass and provide opportunities for repair before replication resumes.

HLTF contains a HIRAN domain that recognizes DNA structures associated with stalled replication forks, including exposed 3' DNA ends. This substrate recognition contributes to the protein's ability to remodel replication intermediates and coordinate DNA damage responses. HLTF activity is regulated through interactions with other replication and repair proteins, including factors involved in ubiquitin signaling and replication fork protection. Although originally characterized in relation to transcriptional regulation, its functions in DNA replication and genome stability have become particularly important areas of investigation.

Altered HLTF expression has been reported in several malignancies, and promoter hypermethylation can contribute to transcriptional silencing in certain tumor types, including colorectal cancer. Loss of HLTF activity may compromise mechanisms that protect replication forks and preserve genomic integrity, although its biological consequences depend on cellular context. Research into HLTF therefore connects chromatin-associated ATPase activity, ubiquitin-dependent signaling, and cancer-associated genome instability. NSJ Bioreagents offers this SMARCA3 Antibody for investigating replication stress responses, DNA damage tolerance, and the molecular mechanisms that maintain genome stability.

Explore additional antibodies targeting DNA repair proteins, chromatin regulators, and factors involved in replication and genome maintenance in our Cell Biology Antibodies collection.

Application Notes

Optimal dilution of the SMARCA3 Antibody 23H05 / HLTF Monoclonal Antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human HLTF/DNA-dependent ATPase/E3 ubiquitin-protein ligase was used as the immunogen for the SMARCA3 Antibody 23H05.

Storage

The SMARCA3 Antibody 23H05 can be stored at -20oC.

Alternate Names

Helicase-like transcription factor antibody, HLTF protein antibody, SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A member 3 antibody, DNA helicase-like transcription factor antibody

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