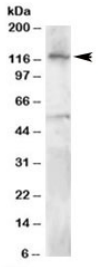
HLTF Goat Polyclonal Antibody (R34582)

Catalog No.	Formulation	Size
R34582-100UG	0.5 mg/ml in 1X TBS, pH7.3, with 0.5% BSA (US sourced) and 0.02% sodium azide	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Predicted Reactivity	Cow, Dog, Mouse, Rat
Format	Antigen affinity purified
Host	Goat
Clonality	Polyclonal (goat origin)
Isotype	Goat Ig
Purity	Antigen affinity
Gene ID	6596
Applications	Western blot: 0.5-1.5ug/ml ELISA (peptide) LOD: 1:16000
Limitations	This HLTF Goat Polyclonal Antibody is available for research use only.



Western blot testing of Jurkat lysate with HLTF Goat Polyclonal Antibody at 0.5ug/ml. Predicted molecular weight: ~114kDa.

Description

HLTF Goat Polyclonal Antibody recognizes helicase-like transcription factor (HLTF), an ATP-dependent DNA translocase involved in DNA replication, genome maintenance, and cellular responses to replication stress. Also known as SMARCA3, HLTF belongs to the SWI/SNF-related family of proteins associated with DNA remodeling and chromatin regulation. The protein contains several functional domains that support its roles in DNA damage tolerance, including a HIRAN domain, an ATP-dependent DNA translocase region, and a RING-type E3 ubiquitin ligase domain. These

activities allow HLTF to participate in mechanisms that preserve replication fidelity when DNA synthesis encounters damaged templates.

One important function of HLTF is the remodeling of stalled replication forks. When DNA polymerases encounter lesions that obstruct replication, HLTF can promote fork reversal, a process in which newly synthesized DNA strands pair to form a four-way DNA structure. This remodeling provides opportunities for lesion bypass and repair while limiting potentially harmful replication intermediates. The HIRAN domain contributes to recognition of exposed 3' DNA ends, helping position HLTF at appropriate replication structures. Its ATP-dependent translocase activity supplies the energy required for DNA strand rearrangement during fork remodeling.

HLTF also contributes to DNA damage tolerance through its E3 ubiquitin ligase activity. In cooperation with other ubiquitin-conjugating factors, HLTF promotes K63-linked polyubiquitination of proliferating cell nuclear antigen (PCNA), a protein that coordinates DNA replication and repair. This modification supports pathways associated with relatively error-free lesion bypass and helps regulate cellular responses to replication-blocking damage. The relationship between PCNA ubiquitination and replication fork remodeling illustrates how HLTF integrates protein modification with direct changes in DNA structure.

Altered HLTF expression has been investigated in cancer biology, particularly in relation to epigenetic silencing and genomic instability. Promoter hypermethylation can reduce HLTF expression in certain malignancies, including colorectal cancer, potentially disrupting protective mechanisms that operate during DNA replication. HLTF has also been studied in transcriptional regulation and chromatin-associated processes, although its functions in replication stress responses are especially well characterized. NSJ Bioreagents offers this HLTF Goat Polyclonal Antibody for investigating DNA damage tolerance, replication fork protection, and the molecular mechanisms that maintain genome stability.

Explore our SMARCA3 Antibody 23H05 for an additional monoclonal antibody option targeting HLTF, with Western blot and immunohistochemistry validation.

Application Notes

Optimal dilution of the HLTF Goat Polyclonal Antibody should be determined by the researcher.

Immunogen

Amino acids KQAKINEIRTLIDL were used as the immunogen for this HLTF antibody.

Storage

Aliquot and store the HLTF antibody at -20oC.

Alternate Names

SMARCA3 antibody, HIP116 antibody, DNA helicase-like transcription factor antibody, Helicase-like transcription factor protein antibody

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