

Anti-HLTF Rabbit Monoclonal Antibody

Catalog # ABO15729

Product Information

Application	WB, IHC, IF, ICC
Primary Accession	Q14527
Host	Rabbit
Isotype	IgG
Reactivity	Rat, Human
Clonality	Monoclonal
Format	Liquid
Description	Anti-HLTF Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF applications. This antibody reacts with Human, Rat.

Additional Information

Gene ID	6596
Other Names	Helicase-like transcription factor, 2.3.2.27, 3.6.4.-, DNA-binding protein/plasminogen activator inhibitor 1 regulator, HIP116, RING finger protein 80, RING-type E3 ubiquitin transferase HLTF, SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A member 3, Sucrose nonfermenting protein 2-like 3, HLTF, HIP116A, RNF80, SMARCA3, SNF2L3, ZBU1
Calculated MW	113929
Application Details	WB 1:1000-1:5000 IHC 1:50-1:200 ICC/IF 1:50-1:200
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: 23H05
Immunogen	A synthesized peptide derived from human HLTF
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name	HLTF (HGNC:11099)
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Function

Functions as a DNA-dependent ATPase and E3 ubiquitin-protein ligase involved in chromatin regulation and DNA damage tolerance (DDT) (PubMed:[18316726](#), PubMed:[18719106](#), PubMed:[26051180](#), PubMed:[31960921](#), PubMed:[39142279](#), PubMed:[40680746](#)). Catalyzes 'Lys-63'-linked polyubiquitination of monoubiquitinated PCNA at 'Lys-164' in response to genotoxic stress, promoting error-free postreplication repair via template switching (PubMed:[18316726](#), PubMed:[18719106](#)). Acts as an epigenetic regulator by promoting recruitment of DNMT1, thereby ensuring DNA methylation inheritance: specifically binds histone H3 trimethylated at 'Lys-9' (H3K9me3) and mediates histone H3 'Lys-23' polyubiquitination (H3K23ub), a docking site for DNMT1, leading to DNMT1 recruitment and replication-coupled DNA methylation maintenance (PubMed:[40680746](#)). Catalyzes formation of H3K23ub in two steps: first mediates monoubiquitination together with UBE2E1 and UBE2D2, and then extends ubiquitin chains via 'Lys-63'-linked ubiquitination together with UBE2N and UBE2V2 (PubMed:[40680746](#)). Also acts as a chromatin redocking factor, thereby regulating transcription (PubMed:[10391891](#), PubMed:[1994885](#), PubMed:[9126292](#)). Exhibits ATP-dependent double-stranded DNA (dsDNA) translocase activity but lacks classical helicase activity; mediates replication fork reversal by concertedly unwinding and annealing nascent and parental strands, thereby suppressing DNA synthesis and maintaining genomic stability (PubMed:[1994885](#)). Resolves G-quadruplex (G4) DNA structures in cooperation with MSH2, limiting replication stress and G4 accumulation across the cell cycle (PubMed:[39142279](#)). Contributes to nucleotide excision repair by evicting lesion-containing oligonucleotides using its HIRAN and ATPase domains (PubMed:[26051180](#)). Can displace single-stranded DNA from triplex structures through ATP-dependent dsDNA translocation (PubMed:[26051180](#), PubMed:[31960921](#)). Also has protein clearing activity at the stalled replication fork, facilitating restart of DNA replication (PubMed:[21795603](#)).

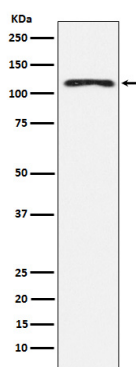
Cellular Location

Nucleus. Chromosome

Tissue Location

Expressed in brain, heart, kidney, liver, lung, pancreas, placenta and skeletal muscle.

Images



Western blot analysis of HLTF expression in K562 cell lysate.

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