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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

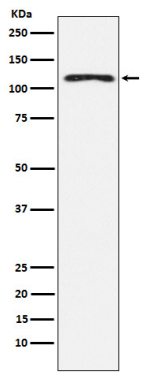
Gene ID	6596
Other Names	Helicase-like transcription factor, 2.3.2.27, 3.6.4.-, DNA-binding protein/plasminogen activator inhibitor 1 regulator, HIP116, RING finger protein 80, RING-type E3 ubiquitin transferase HLTF, SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily 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)

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 redodeling 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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.