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# HLTF Antibody

Rabbit mAb
Catalog # AP92309

## Product Information

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|---|---|
| **Application** | WB, IHC, IF, ICC, IHF |
| **Primary Accession** | Q14527 |
| **Reactivity** | Rat, Human |
| **Clonality** | Monoclonal |
| **Other Names** | HIP116; HIP116A; HLTF 1; Hltf; HLTF1; p113; RNF80; SMARC A3; SMARCA 3; SMARCA3; SNF2L3; ZBU1; |
| **Isotype** | Rabbit IgG |
| **Host** | Rabbit |
| **Calculated MW** | 113929 |

## Additional Information

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| **Dilution** | WB 1:1000~1:5000 IHC 1:50~1:200 ICC/IF 1:50~1:200 |
| **Purification** | Affinity-chromatography |
| **Immunogen** | A synthesized peptide derived from human HLTF |
| **Description** | Has both helicase and E3 ubiquitin ligase activities. Possesses intrinsic ATP-dependent nucleosome-remodeling activity; This activity may be required for transcriptional activation or repression of specific target promoters (By similarity). |
| **Storage Condition and Buffer** | Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle. |

## Protein Information

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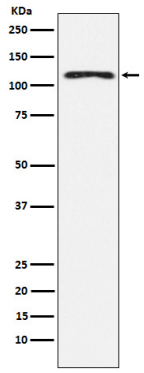
| **Name** | HLTF ( HGNC:11099) |
| **Function** | Functions as a DNA-dependent ATPase and E3 ubiquitin-protein ligase involved in chromatin regulation and DNA damage tolerance (DDT) (PubMed:18316726, PubMed:18719106, PubMed:26051180, PubMed:31960921, PubMed:39142279, PubMed:40680746). Catalyzes 'Lys-63'-linked 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.

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