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Anti-HLTF Picoband Antibody

Catalog # ABO11688

Product Information

Application	WB
Primary Accession	Q14527
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Helicase-like transcription factor(HLTF) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

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	Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat
Subcellular Localization	Cytoplasm . Nucleus . Nucleus, nucleolus . Nucleus, nucleoplasm . Nuclear localization is stimulated by progesterone. .
Tissue Specificity	Expressed in brain, heart, kidney, liver, lung, pancreas, placenta and skeletal muscle. .
Source	Eukaryota
Protein Name	Helicase-like transcription factor
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E. coli-derived human HLTF recombinant protein (Position: S911-L1009). Human HLTF shares 92.9% amino acid (aa) sequence identity with mouse HLTF.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

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.

Background

Helicase-like transcription factor is an enzyme that in humans is encoded by the HLTF gene. This gene encodes a member of the SWI/SNF family. Members of this family have helicase and ATPase activities and are thought to regulate transcription of certain genes by altering the chromatin structure around those genes. The encoded protein contains a RING finger DNA binding motif. Two transcript variants encoding the same protein have been found for this gene. However, use of an alternative translation start site produces an isoform that is truncated at the N-terminus compared to the full-length protein.

Images

Western blot analysis of HLTF expression in rat cardiac muscle extract (lane 1), mouse spleen extract (lane 2) and human placenta extract (lane 3). HLTF at 114KD was detected using rabbit anti- HLTF Antigen Affinity purified polyclonal antibody (Catalog # ABO11688) at 0.5 ??g/mL. The blot was developed using chemiluminescence (ECL) method .

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