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Anti-UHRF1 Picoband Antibody

Catalog # ABO12591

Product Information

Application	WB, IHC-P
Primary Accession	Q96T88
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for E3 ubiquitin-protein ligase UHRF1(UHRF1) detection. Tested with WB, IHC-P in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	29128
Other Names	E3 ubiquitin-protein ligase UHRF1, 2.3.2.27, Inverted CCAAT box-binding protein of 90 kDa, Nuclear protein 95, Nuclear zinc finger protein Np95, HuNp95, hNp95, RING finger protein 106, RING-type E3 ubiquitin transferase UHRF1, Transcription factor ICBP90, Ubiquitin-like PHD and RING finger domain-containing protein 1, hUHRF1, Ubiquitin-like-containing PHD and RING finger domains protein 1, UHRF1, ICBP90, NP95, RNF106
Calculated MW	89814
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, By Heat Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Nucleus . Localizes to replication foci. Enriched in pericentric heterochromatin. Also localizes to euchromatic regions.
Tissue Specificity	Expressed in thymus, bone marrow, testis, lung and heart. Overexpressed in breast cancer. .
Source	Eukaryota
Protein Name	E3 ubiquitin-protein ligase UHRF1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human UHRF1 (14-51aa HTVDSLSRLTKVEELRRKIQELFHVEPGLQRLFYRGKQ), different

from the related mouse sequence by six amino acids, and from the related rat sequence by five amino acids.

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 UHRF1 {ECO:0000303|PubMed:17673620, ECO:0000312|HGNC:HGNC:12556}

Function E3 ubiquitin-protein ligase that acts as a key epigenetic regulator by bridging DNA methylation and chromatin modification (PubMed:10646863, PubMed:15009091, PubMed:19056828, PubMed:23022729, PubMed:24013172, PubMed:27595565, PubMed:30104358, PubMed:30392929, PubMed:30392931, PubMed:39607687). Plays a key role in DNA methylation inheritance by promoting recruitment of DNMT1 to hemimethylated DNA and ensure faithful propagation of the DNA methylation patterns through DNA replication (PubMed:23022729, PubMed:24013172, PubMed:27595565, PubMed:30104358, PubMed:30392929, PubMed:30392931, PubMed:39607687). Acts both as a histone reader and writer: specifically recognizes and binds (1) hemimethylated DNA at replication forks and (2) histone H3 trimethylated at 'Lys-9' and unmethylated at 'Arg-2' (H3K9me3 and H3R2me0, respectively), thereby activating its E3 ubiquitin-protein ligase activity (PubMed:15361834, PubMed:17673620, PubMed:17967883, PubMed:18772889, PubMed:21745816, PubMed:21777816, PubMed:22100450, PubMed:22837395, PubMed:23022729, PubMed:27595565, PubMed:30104358). UHRF1 then mediates histone H3 'Lys-18' monoubiquitination (H3K18ub), a docking site for DNMT1, leading to DNMT1 recruitment and replication- coupled DNA methylation maintenance (PubMed:27595565). Also mediates histone H3 'Lys-14' and 'Lys-23' ubiquitination (H3K14ub and H3K23ub) at lower level (PubMed:24013172, PubMed:27595565). Histone ubiquitin ligase activity also stimulates the methyltransferase activity of SUV39H1 and/or SUV39H2, promoting accumulation of H3K9me3 histone mark to reinformce heterochromatin state (PubMed:39631394). Enriched in pericentric heterochromatin where it recruits different chromatin modifiers required for this chromatin replication. Also localizes to euchromatic regions where it negatively regulates transcription possibly by impacting DNA methylation and histone modifications (PubMed:21777816). Plays a role in DNA repair by cooperating with UHRF2 to ensure recruitment of FANCD2 to interstrand cross-links (ICLs) leading to FANCD2 activation (PubMed:30335751). Also ubiquitinates non- histone proteins, such as histone H3, KIF11 and PML (PubMed:22945642, PubMed:37728657). Acts as a critical player of proper spindle architecture by catalyzing the 'Lys-63'-linked ubiquitination of KIF11, thereby controlling KIF11 localization on the spindle (PubMed:37728657).

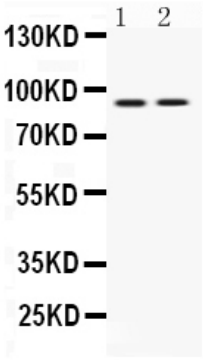
Cellular Location Nucleus {ECO:0000255|PROSITE-ProRule:PRU00358, ECO:0000269|PubMed:10646863, ECO:0000269|PubMed:17673620, ECO:0000269|PubMed:17967883, ECO:0000269|PubMed:19056828, ECO:0000269|PubMed:21777816, ECO:0000269|PubMed:30335751}. Chromosome Note=Associated with replicating DNA from early to late S phase, including at replicating pericentric heterochromatin (PubMed:17673620) Also localizes to euchromatic regions

	(PubMed:21777816). In non-S-phase cells, homogeneously distributed through the nucleus (By similarity) {ECO:0000250|UniProtKB:Q8VDF2, ECO:0000269|PubMed:17673620, ECO:0000269|PubMed:21777816}
Tissue Location	Expressed in thymus, bone marrow, testis, lung and heart. Overexpressed in breast cancer.

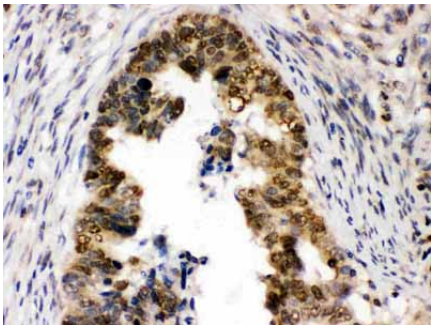
Background

Ubiquitin-like, containing PHD and RING finger domains, 1 is a protein which in humans is encoded by the UHRF1 gene. This gene encodes a member of a subfamily of RING-finger type E3 ubiquitin ligases. The protein binds to specific DNA sequences, and recruits a histone deacetylase to regulate gene expression. Its expression peaks at late G1 phase and continues during G2 and M phases of the cell cycle. It plays a major role in the G1/S transition by regulating topoisomerase IIalpha and retinoblastoma gene expression, and functions in the p53-dependent DNA damage checkpoint. It is regarded as a hub protein for the integration of epigenetic information. This gene is up-regulated in various cancers, and it is therefore considered to be a therapeutic target. Multiple transcript variants encoding different isoforms have been found for this gene. A related pseudogene exists on chromosome 12.

Images



Western blot analysis of UHRF1 expression in MCF-7 whole cell lysates (lane 1) and U2OS whole cell lysates (lane 2). UHRF1 at 90KD was detected using rabbit anti-UHRF1 Antigen Affinity purified polyclonal antibody (Catalog # ABO12591) at0.5 ??g/mL. The blot was developed using chemiluminescence (ECL) method .



UHRF1 was detected in paraffin-embedded sections of human intestinal cancer tissues using rabbit anti- UHRF1 Antigen Affinity purified polyclonal antibody (Catalog # ABO12591) at 1 □¼g/mL. The immunohistochemical section was developed using SABC method .

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