

NIRF Rabbit pAb

NIRF Rabbit pAb Catalog # AP58432

Product Information

Application IHC-P, IHC-F, IF, E

Primary Accession Q96PU4

Reactivity Rat, Mouse, Dog

HostRabbitClonalityPolyclonalCalculated MW89985Physical StateLiquid

Immunogen KLH conjugated synthetic peptide derived from human NIRF

Epitope Specificity 15-100/802 **Isotype** IgG

Purity affinity purified by Protein A

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.

SUBCELLULAR LOCATION Nucleus. Note=Enriched at pericentric heterochromatin (PH). This localization

is dependent on the interaction with H3K9me3.

SIMILARITY Contains 1 PHD-type zinc finger. Contains 1 RING-type zinc finger. Contains 1

ubiquitin-like domain. Contains 1 YDG domain.

SUBUNIT Homodimer; disulfide-linked. Binds methylated CpG containing

oligonucleotides. Interacts with H3: the interaction has a preference for the 'Lys-9' trimethylated form of H3 (H3K9me3). Interacts with PCNP, HDAC1 and CDK2 (inactive form). Component of a complex at least composed of UHRF2, CDK2 and CCNE1. Interacts directly with CCNE1; the interaction ubiquitinates CCNE1 and appears independent of CCNE1 phosphorylation. Interacts with CCND1; the interaction ubiquitinates CCND1 and appears independent of CCND1 phosphorylation. Interacts with p53/TP53 and RB1. Interacts with

UBEZI.

Post-translational May be autoubiquitinated; which may lead to proteasomal degradation.

modifications Phosphorylated. Phosphorylation may be mediated by CDK2.

Autosumoylated.

DISEASENote=Associated with various cancers. DNA copy number loss is found in

multiple kinds of malignancies originating from the brain, breast, stomach,

kidney, hematopoietic tissue and lung.

Important NoteThis product as supplied is intended for research use only, not for use in

human, therapeutic or diagnostic applications.

Background Descriptions E3 ubiquitin-protein ligase which mediates ubiquitination and subsequent

proteasomal degradation of PCNP. May participate in methylation-dependent transcriptional regulation. Important for G1/S transition. Overexpression

causes G1 phase cell arrest.

Additional Information

Gene ID 115426

Other Names E3 ubiquitin-protein ligase UHRF2, 2.3.2.27, Np95/ICBP90-like RING finger

protein, Np95-like RING finger protein, Nuclear protein 97, Nuclear zinc finger protein Np97, RING finger protein 107, RING-type E3 ubiquitin transferase UHRF2, Ubiquitin-like PHD and RING finger domain-containing protein 2, Ubiquitin-like-containing PHD and RING finger domains protein 2, UHRF2,

NIRF, RNF107

Dilution IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000

Storage Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

Name UHRF2

Synonyms NIRF, RNF107

Function E3 ubiquitin ligase that plays important roles in DNA methylation, histone

modifications, cell cycle and DNA repair (PubMed: 15178429,

PubMed:<u>23404503</u>, PubMed:<u>27743347</u>, PubMed:<u>29506131</u>). Acts as a specific reader for 5-hydroxymethylcytosine (5hmC) and thereby recruits various

substrates to these sites to ubiquitinate them (PubMed:24813944,

PubMed:<u>27129234</u>). This activity also allows the maintenance of 5mC levels at specific genomic loci and regulates neuron-related gene expression (By similarity). Participates in cell cycle regulation by ubiquitinating cyclins CCND1

and CCNE1 and thereby inducing G1 arrest (PubMed: 15178429,

PubMed:<u>15361834</u>, PubMed:<u>21952639</u>). Also ubiquitinates PCNP leading to its degradation by the proteasome (PubMed:<u>12176013</u>, PubMed:<u>14741369</u>). Plays an active role in DNA damage repair by ubiquitinating p21/CDKN1A leading to its proteasomal degradation (PubMed:<u>29923055</u>). Also promotes

DNA repair by acting as an interstrand cross-links (ICLs) sensor.

Mechanistically, cooperates with UHRF1 to ensure recruitment of FANCD2 to ICLs, leading to FANCD2 monoubiquitination and subsequent activation (PubMed:30335751). Contributes to UV-induced DNA damage response by physically interacting with ATR in response to irradiation, thereby promoting

ATR activation (PubMed: 33848395).

Cellular Location Nucleus {ECO:0000255 | PROSITE-ProRule:PRU00358,

ECO:0000269 | PubMed:12176013, ECO:0000269 | PubMed:23404503, ECO:0000269 | PubMed:27129234, ECO:0000269 | PubMed:27743347, ECO:0000269 | PubMed:29923055, ECO:0000269 | PubMed:30335751}. Chromosome. Note=Enriched at genomic loci that are enriched for

5-hydroxymethylcytosine (5hmC)

Background

E3 ubiquitin-protein ligase which mediates ubiquitination and subsequent proteasomal degradation of PCNP. May participate in methylation-dependent transcriptional regulation. Important for G1/S transition. Overexpression causes G1 phase cell arrest.

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