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RIF1 Antibody (aa2406-2419)

Rabbit Polyclonal Antibody

Catalog # ALS11755

Specification

RIF1 Antibody (aa2406-2419) - Product Information

Application	**WB, IHC-P, E**
Primary Accession	Q5UIP0
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**274kDa KDa**
Dilution	**WB~~1:1000** **IHC-P~~N/A** **E~~N/A**

RIF1 Antibody (aa2406-2419) - Additional Information

Gene ID 55183

Other Names
Telomere-associated protein RIF1, Rap1-interacting factor 1 homolog, RIF1

Target/Specificity
Rif1

Reconstitution & Storage
Store vial at -20 C prior to opening. Dilute only prior to immediate use. For extended storage aliquot contents and freeze at -20 C or below. Avoid cycles of freezing and thawing.

Precautions
RIF1 Antibody (aa2406-2419) is for research use only and not for use in diagnostic or therapeutic procedures.

RIF1 Antibody (aa2406-2419) - Protein Information

Name RIF1 {ECO:0000303|PubMed:15342490, ECO:0000312|HGNC:HGNC:23207}

Function
Key regulator of TP53BP1 that plays a key role in the repair of double-strand DNA breaks (DSBs) in response to DNA damage: acts by promoting non-homologous end joining (NHEJ)-mediated repair of DSBs (PubMed:15342490, PubMed:28241136). In response to DNA damage, interacts with ATM-phosphorylated TP53BP1 (PubMed:23333306, PubMed:28241136). Interaction with TP53BP1 leads to dissociate the interaction between NUDT16L1/TIRR and TP53BP1, thereby unmasking the tandem Tudor-like domain of

TP53BP1 and allowing recruitment to DNA DSBs (PubMed:28241136). Once recruited to DSBs, RIF1 and TP53BP1 act by promoting NHEJ-mediated repair of DSBs (PubMed:23333306). In the same time, RIF1 and TP53BP1 specifically counteract the function of BRCA1 by blocking DSBs resection via homologous recombination (HR) during G1 phase (PubMed:23333306). Also required for immunoglobulin class-switch recombination (CSR) during antibody genesis, a process that involves the generation of DNA DSBs (By similarity). Promotes NHEJ of dysfunctional telomeres (By similarity).

Cellular Location
Nucleus. Chromosome {ECO:0000250|UniProtKB:Q6PR54}. Chromosome, telomere. Cytoplasm, cytoskeleton, spindle. Note=Following interaction with TP53BP1, recruited to sites of DNA damage, such as DSBs (By similarity). Exhibits ATM- and TP53BP1-dependent localization to uncapped or aberrant telomeres and to DNA double strand breaks (DSBs) (PubMed:15342490). Does not associate with normal telomere structures (PubMed:15342490, PubMed:15583028). Localizes to microtubules of the midzone of the mitotic spindle during anaphase, and to condensed chromosomes in telophase (PubMed:15583028) {ECO:0000250|UniProtKB:Q6PR54, ECO:0000269|PubMed:15342490, ECO:0000269|PubMed:15583028}

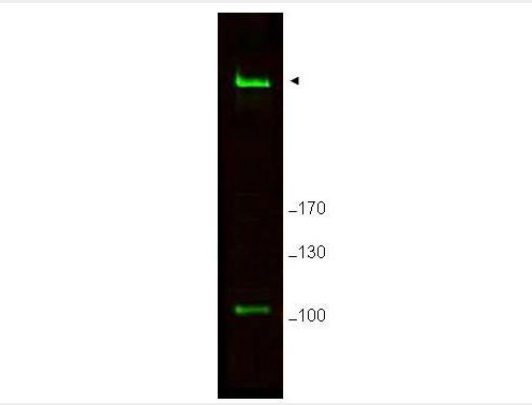
Tissue Location
Highly expressed in testis.

RIF1 Antibody (aa2406-2419) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

RIF1 Antibody (aa2406-2419) - Images



Anti-Rif1 Antibody - Western Blot.

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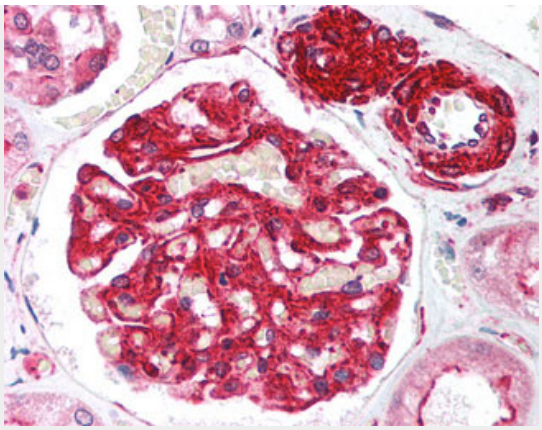
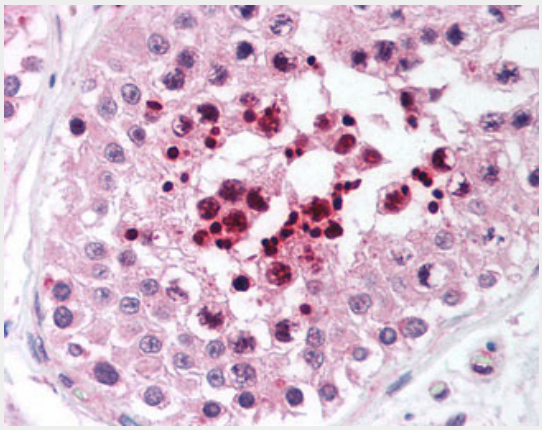


Anti-RIF1 antibody IHC of human kidney.



Anti-RIF1 antibody IHC of human testis.

RIF1 Antibody (aa2406-2419) - Background

Required for checkpoint mediated arrest of cell cycle progression in response to DNA damage during S-phase (the intra-S- phase checkpoint). This checkpoint requires activation of at least 2 parallel pathways by the ATM kinase: one involves the MRN (MRE11A-RAD50-NBS1) complex, while the second requires CHEK2. RIF1 seems to act independently of both these pathways. Seems to play no role in either the G1/S or G2/M DNA damage checkpoints.

RIF1 Antibody (aa2406-2419) - References

Silverman J.,et al.Genes Dev. 18:2108-2119(2004).
Hillier L.W.,et al.Nature 434:724-731(2005).
Xu L.,et al.J. Cell Biol. 167:819-830(2004).
Simonsson T.,et al.Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases.
Bechtel S.,et al.BMC Genomics 8:399-399(2007).