

Anti-Mouse Rif1 (RABBIT) Antibody
Rif1 Antibody
Catalog # ASR5307

Specification

Anti-Mouse Rif1 (RABBIT) Antibody - Product Information

Host	Rabbit
Conjugate	Unconjugated
Target Species	Mouse
Reactivity	Mouse
Clonality	Polyclonal
Application	WB, E, I, LCI
Application Note	This affinity purified antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 265 kDa in size corresponding to Rif1 by western blotting in the appropriate cell lysate or extract.
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to C-Terminal region near amino acids 2375-2419 of Mouse Rif1.
Preservative	0.01% (w/v) Sodium Azide

Anti-Mouse Rif1 (RABBIT) Antibody - Additional Information

Gene ID 51869

Other Names
51869

Purity

This affinity purified antibody is directed against mouse Rif1 protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest reactivity with this protein from mouse based on 100% homology for the immunogen sequence. Expect cross reactivity with Rif1 from human, chimpanzee, rat and dog as only a single amino acid residue change (92% homology) is found for the immunogen sequence. Cross reactivity with Rif1 homologues from other sources has not been determined. Databases confirm that the immunogen sequence represents the C-terminal end of mouse Rif1 (534 aa 58.1 kDa), mouse telomere-associated protein RIF1 (2418 aa 265.7 kDa) and mouse Rap1-interacting factor 1 (2426 267.1 kDa).

Storage Condition

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note

This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-Mouse Rif1 (RABBIT) Antibody - Protein Information

Name Rif1 {ECO:0000312|MGI:MGI:1098622}

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:23306437, PubMed:23306439, PubMed:23333305). In response to DNA damage, interacts with ATM-phosphorylated TP53BP1 (PubMed:23306437, PubMed:23306439, PubMed:23333305). 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 (By similarity). Once recruited to DSBs, RIF1 and TP53BP1 act by promoting NHEJ-mediated repair of DSBs (PubMed:23306437, PubMed:23333305). 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:23306437, PubMed:23333305). Also required for immunoglobulin class-switch recombination (CSR) during antibody genesis, a process that involves the generation of DNA DSBs (PubMed:23306439, PubMed:23333305, PubMed:23333306). Promotes NHEJ of dysfunctional telomeres (PubMed:23333305).

Cellular Location

Nucleus. Chromosome. Chromosome, telomere. Cytoplasm, cytoskeleton, spindle {ECO:0000250|UniProtKB:Q5UIP0}. Note=Exhibits ATM- and TP53BP1- dependent localization to uncapped or aberrant telomeres and to DNA double strand breaks (DSBs). Following interaction with TP53BP1, recruited to sites of DNA damage, such as DSBs (PubMed:23306437, PubMed:23306439, PubMed:23333305). Localizes to microtubules of the midzone of the mitotic spindle during anaphase, and to condensed chromosomes in telophase (By similarity). While the majority of the protein appears nuclear and distinct from normal telomere structures, a small fraction may bind to telomeres in embryonic stem cells (PubMed:15042697). {ECO:0000250|UniProtKB:Q5UIP0, ECO:0000269|PubMed:15042697, ECO:0000269|PubMed:23306437, ECO:0000269|PubMed:23306439, ECO:0000269|PubMed:23333305}

Tissue Location

Expressed in Sertoli cells, prospermatogonia, early primary spermatocytes, and in oocytes at all

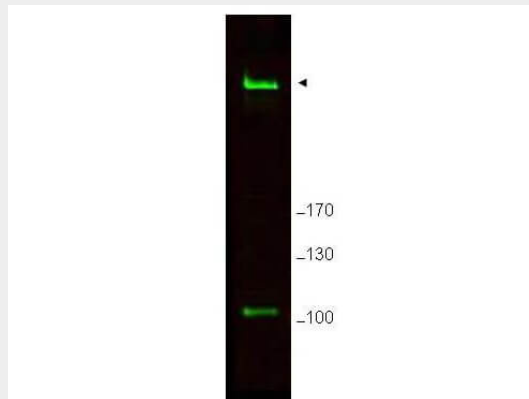
stages of their growth Expressed in embryonic stem (ES) and embryonic germ (EG) cells: expression is lost upon differentiation.

Anti-Mouse Rif1 (RABBIT) Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-Mouse Rif1 (RABBIT) Antibody - Images



Western blot using Rockland's Affinity Purified anti-Rif1 antibody shows detection of a band ~265 kDa corresponding to mouse Rif1 (arrowhead). Specific reactivity with this band is blocked when the antibody is pre-incubated with the immunizing peptide (data not shown). Approximately 25 ug of MEF whole cell lysate (p/n W10-001-371) was separated by SDS-PAGE and transferred onto nitrocellulose. After blocking the membrane was probed with the primary antibody diluted to 1.0ug/ml for 2 h at room temperature followed by washes and reaction with a 1:10,000 dilution of IRDye™ 800 conjugated Gt-a-Rabbit IgG [H&L] MX (p/n 611-132-122) for 45 min at room temperature. IRDye800 fluorescence image was captured using the Odyssey® Infrared Imaging System developed by LI-COR. IRDye is a trademark of LI-COR, Inc. Other detection systems will yield similar results.

Anti-Mouse Rif1 (RABBIT) Antibody - Background

Rif1 (also known as telomere-associated protein RIF1 and Rap1-interacting factor 1) is a mouse ortholog of the yeast Rif1 family of telomere-associated proteins identified on the basis of its high expression in primordial germ cells and embryo-derived pluripotent stem cell lines. Mouse Rif1 is a protein involved in negative regulation of telomere length. It is also localized to ATM dependent DNA damage foci and may act at the chromatin level to allow access to some factors.