

Rad21 Rabbit pAb

CatalogNo: YT3960

Key Features

Host Species

- Rabbit

Reactivity

- Human, Mouse

Applications

- WB, IHC, IF, ELISA

MW

- 75kD (Calculated)
120-130kD (Observed)

Isotype

- IgG

Storage

Storage* -15°C to -25°C/1 year (Do not lower than -25°C)

Formulation Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

WB 1:500-1:2000

IHC 1:100-1:300

IF 1:200-1:1000

ELISA 1:5000

Not yet tested in other applications.

Basic Information

Clonality Polyclonal

Immunogen Information

Immunogen The antiserum was produced against synthesized peptide derived from human RAD21. AA range:521-570

Specificity Rad21 Polyclonal Antibody detects endogenous levels of Rad21 protein.

| Target Information

Gene name RAD21

Protein Name Double-strand-break repair protein rad21 homolog

Organism	Gene ID	UniProt ID
Human	5885 ;	O60216 ;
Mouse	19357 ;	Q61550 ;

Cellular Localization

[Double-strand-break repair protein rad21 homolog]: Nucleus . Nucleus matrix . Chromosome . Chromosome , centromere . Cytoplasm , cytoskeleton , spindle pole . Associates with chromatin (PubMed:11590136 , PubMed:11073952) . Before prophase , scattered along chromosome arms (PubMed:11073952) . During prophase and prometaphase , most cohesins dissociate from the arms of condensing chromosome , possibly through PLK1-mediated phosphorylation (PubMed:11931760) . A small amount of cohesin remains in centromeric regions and is removed from chromosomes only at the onset of anaphase. At anaphase , cleavage by separase/ESPL1 leads to the dissociation of cohesin from chromosomes and chromosome separation (PubMed:11073952 , PubMed:11509732) . . ; [64-kDa C-terminal product]: Cytoplasm , cytosol . Nucleus .

Tissue specificity Expressed in the gut (at protein level) .

Function

Domain:The C-terminal part associates with the head of SMC1A , while the N-terminal part binds to the head of SMC3. ,Function:Cleavable component of the cohesin complex , involved in chromosome cohesion during cell cycle , in DNA repair , and in apoptosis. The cohesin complex is required for the cohesion of sister chromatids after DNA replication. The cohesin complex apparently forms a large proteinaceous ring within which sister chromatids can be trapped. At metaphase-anaphase transition , this protein is cleaved by separase/ESPL1 and dissociates from chromatin , allowing sister chromatids to segregate. The cohesin complex may also play a role in spindle pole assembly during mitosis. Also plays a role in apoptosis , via its cleavage by caspase-3/CASP3 or caspase-7/CASP7 during early steps of apoptosis: the C-terminal 64 kDa cleavage product may act as a nuclear signal to initiate cytoplasmic events involved in the apoptotic pathway. ,polymorphism:Some radiosensitive cancer patients seem to have Arg-481 instead of the conserved Gly-481. It may be that this mutation could contribute to radiosensitivity. ,PTM:Cleaved by separase/ESPL1 at the onset of anaphase. Cleaved by caspase-3 and caspase-7 at the beginning of apoptosis. The cleavage by ESPL1 and caspase-3 take place at different sites. ,PTM:Phosphorylated; becomes hyperphosphorylated in M phase of cell cycle. The large dissociation of cohesin from chromosome arms during prophase may be partly due to its phosphorylation by PLK , except at centromeres , where cohesin complexes remain. At anaphase , it is cleaved by separase/ESPL1 , leading to the dissociation of the complex from chromosomes , allowing chromosome separation. Once cleaved by caspase-3 , the C-terminal 64 kDa cleavage product translocates to the cytoplasm , where it may trigger apoptosis. ,subunit:Cohesin complexes are composed of the SMC1 (SMC1A or SMC1B) and SMC3 heterodimer attached via their hinge domain , RAD21 which link them , and one STAG protein (STAG1 , STAG2 or STAG3) , which interacts with RAD21. Found in a complex with SMC1A , SMC3 , CDCA5 , PDS5A/APRIN and PDS5B/SCC-112. ,

| Validation Data

| Contact information

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