

Product Name: Rad17 (phospho Ser645) Rabbit Polyclonal Antibody**Catalog #: APRab05325**

For research use only.

Summary

Description	Rabbit polyclonal Antibody
Host	Rabbit
Application	WB,IHC,ELISA
Reactivity	Human,Mouse
Conjugation	Unconjugated
Modification	Phosphorylated
Isotype	IgG
Clonality	Polyclonal
Form	Liquid
Concentration	1mg/ml
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Liquid in PBS containing 50% glycerol, 0.5% protective protein and 0.02% New type preservative N.
Purification	Affinity purification

Application

Dilution Ratio	WB 1:500-1:2000,IHC 1:50-1:300,ELISA 1:2000-1:20000
Molecular Weight	77kDa

Antigen Information

Gene Name	RAD17
Alternative Names	RAD17; R24L; Cell cycle checkpoint protein RAD17; hRad17; RF-C/activator 1 homolog
Gene ID	5884.0
SwissProt ID	O75943
Immunogen	The antiserum was produced against synthesized peptide derived from human RAD17 around the phosphorylation site of Ser645. AA range:621-670

Background

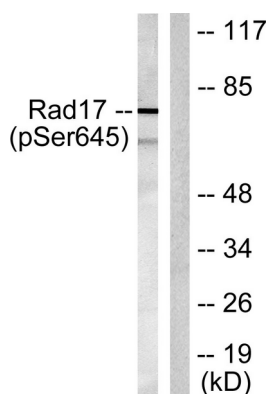
The protein encoded by this gene is highly similar to the gene product of *Schizosaccharomyces pombe* rad17, a cell cycle

checkpoint gene required for cell cycle arrest and DNA damage repair in response to DNA damage. This protein shares strong similarity with DNA replication factor C (RFC), and can form a complex with RFCs. This protein binds to chromatin prior to DNA damage and is phosphorylated by the checkpoint kinase ATR following damage. This protein recruits the RAD1-RAD9-HUS1 checkpoint protein complex onto chromatin after DNA damage, which may be required for its phosphorylation. The phosphorylation of this protein is required for the DNA-damage-induced cell cycle G2 arrest, and is thought to be a critical early event during checkpoint signaling in DNA-damaged cells. Multiple alternatively spliced transcript variants of this gene, which encode four distinct protein isoforms, function: Essential for sustained cell growth, maintenance of chromosomal stability, and ATR-dependent checkpoint activation upon DNA damage. Has a weak ATPase activity required for binding to chromatin. Participates in the recruitment of the RAD1-RAD9-HUS1 complex onto chromatin, and in CHEK1 activation. May also serve as a sensor of DNA replication progression, and may be involved in homologous recombination. Induction: By X-ray irradiation (isoform 1, isoform 3 and isoform 4). PTM: Phosphorylated. Phosphorylation on Ser-646 and Ser-656 is cell cycle-regulated, enhanced by genotoxic stress, and required for activation of checkpoint signaling. Phosphorylation is mediated by ATR upon UV or replication arrest, whereas it may be mediated both by ATR and ATM upon ionizing radiation. Phosphorylation on both sites is required for interaction with RAD1 but dispensable for interaction with RFC3 or RFC4. Similarity: Belongs to the rad17/RAD24 family. Subcellular location: Phosphorylated form redistributes to discrete nuclear foci upon DNA damage. Subunit: Part of a DNA-binding complex containing RFC2, RFC3, RFC4 and RFC5. Interacts with RAD1 and RAD9 within the RAD1-RAD9-HUS1 complex. Interacts with RAD9B, POLE, NHP2L1 and MCM7. DNA damage promotes interaction with ATR or ATM and disrupts interaction with the RAD1-RAD9-HUS1 complex. Tissue specificity: Overexpressed in various cancer cell lines and in colon carcinoma (at protein level). Isoform 2 and isoform 3 are the most abundant isoforms in non irradiated cells (at protein level). Ubiquitous at low levels. Highly expressed in testis, where it is expressed within the germinal epithelium of the seminiferous tubuli. Weakly expressed in seminomas (testicular tumors).

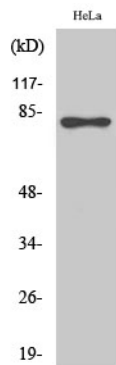
Research Area

Cell Biology

Image Data



Western blot analysis of lysates from HeLa cells treated with UV 15', using RAD17 (Phospho-Ser645) Antibody. The lane on the right is blocked with the phosphopeptide.



Western Blot analysis of various cells using Phospho-Rad17 (S645) Polyclonal Antibody