

Phospho-RAD9(S277) Antibody
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3224a**Specification**

Phospho-RAD9(S277) Antibody - Product Information

Application	WB, IHC-P,E
Primary Accession	O99638
Other Accession	O4R5X9
Reactivity	Human
Predicted	Monkey
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	42547

Phospho-RAD9(S277) Antibody - Additional Information**Gene ID** 5883**Other Names**

Cell cycle checkpoint control protein RAD9A, hRAD9, DNA repair exonuclease rad9 homolog A, RAD9A

Target/Specificity

This RAD9 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S277 of human RAD9.

Dilution

WB~~1:1000

IHC-P~~1:50~100

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Phospho-RAD9(S277) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Phospho-RAD9(S277) Antibody - Protein Information**Name** RAD9A

Function Component of the 9-1-1 cell-cycle checkpoint response complex that plays a major role in DNA repair (PubMed:[10713044](#), PubMed:[17575048](#), PubMed:[20545769](#), PubMed:[21659603](#), PubMed:[31135337](#)). The 9-1-1 complex is recruited to DNA lesion upon damage by the RAD17-replication factor C (RFC) clamp loader complex (PubMed:[21659603](#)). Acts then as a sliding clamp platform on DNA for several proteins involved in long-patch base excision repair (LP-BER) (PubMed:[21659603](#)). The 9-1-1 complex stimulates DNA polymerase beta (POLB) activity by increasing its affinity for the 3'-OH end of the primer-template and stabilizes POLB to those sites where LP-BER proceeds; endonuclease FEN1 cleavage activity on substrates with double, nick, or gap flaps of distinct sequences and lengths; and DNA ligase I (LIG1) on long-patch base excision repair substrates (PubMed:[21659603](#)). The 9-1-1 complex is necessary for the recruitment of RHO1 to sites of double-stranded breaks (DSB) occurring during the S phase (PubMed:[21659603](#)). RAD9A possesses 3'->5' double stranded DNA exonuclease activity (PubMed:[10713044](#)).

Cellular Location

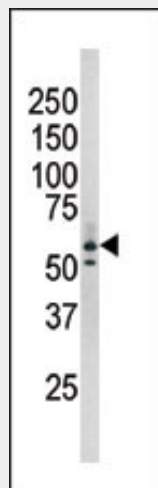
Nucleus.

Phospho-RAD9(S277) Antibody - Protocols

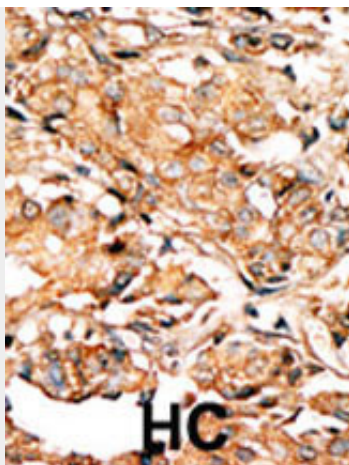
Provided below are standard protocols that you may find useful for product applications.

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

Phospho-RAD9(S277) Antibody - Images



The anti-Phospho-Rad9-S277 Pab (Cat. #AP3224a) is used in Western blot to detect Phospho-Rad9-S277 in Y79 tissue lysate



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Phospho-RAD9(S277) Antibody - Background

Rad9 is highly similar to *Schizosaccharomyces pombe* rad9, a cell cycle checkpoint protein required for cell cycle arrest and DNA damage repair in response to DNA damage. This protein is found to possess 3' to 5' exonuclease activity, which may contribute to its role in sensing and repairing DNA damage. It forms a checkpoint protein complex with RAD1 and HUS1. This complex is recruited by checkpoint protein RAD17 to the sites of DNA damage, which is thought to be important for triggering the checkpoint-signaling cascade.

Phospho-RAD9(S277) Antibody - References

- Maniwa, Y., et al., *Cancer* 103(1):126-132 (2005).
- Wang, W., et al., *Proc. Natl. Acad. Sci. U.S.A.* 101(48):16762-16767 (2004).
- Lindsey-Boltz, L.A., et al., (er) *Nucleic Acids Res.* 32(15):4524-4530 (2004).
- Toueille, M., et al., (er) *Nucleic Acids Res.* 32(11):3316-3324 (2004).
- Loegering, D., et al., *J. Biol. Chem.* 279(18):18641-18647 (2004).