

CPTC-RAD9A-1 (CAB079979)

Uniprot ID: Q99638

Protein name: RAD9A_HUMAN

Full name: Cell cycle checkpoint control protein RAD9A

Function: Component of the 9-1-1 cell-cycle checkpoint response complex that plays a major role in DNA repair. The 9-1-1 complex is recruited to DNA lesion upon damage by the RAD17-replication factor C (RFC) clamp loader complex. Acts then as a sliding clamp platform on DNA for several proteins involved in long-patch base excision repair (LP-BER). 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. The 9-1-1 complex is necessary for the recruitment of RHNO1 to sites of double-stranded breaks (DSB) occurring during the S phase. RAD9A possesses 3'->5' double stranded DNA exonuclease activity. Its phosphorylation by PRKCD may be required for the formation of the 9-1-1 complex.

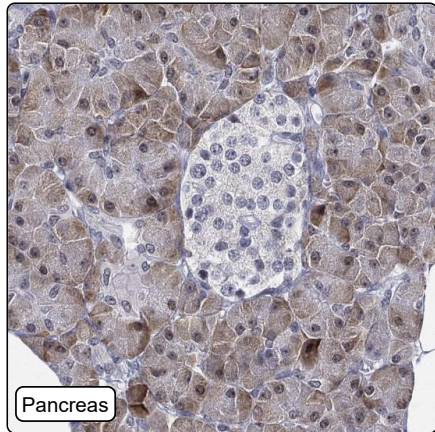
Subcellular location:

Nucleus (*experimental evidence*)

Protein existence: Experimental evidence at protein level

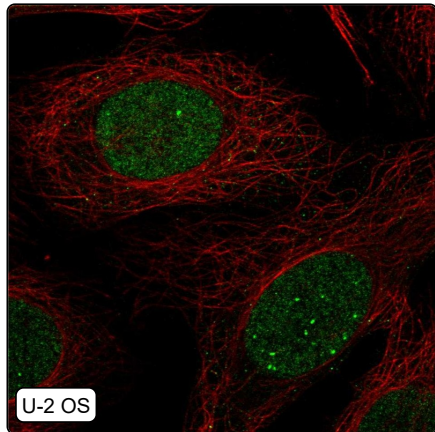
Comment: ICC-IF: We will try to get a good staining of this antibody in one more cell line, before publication on the HPA. /Ulrika Axelsson

Immunohistochemistry



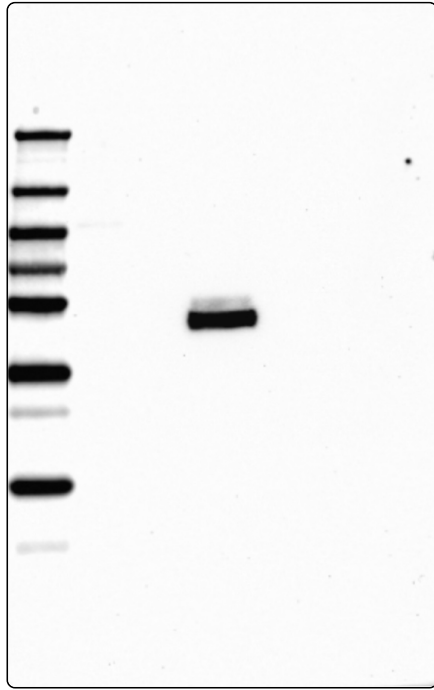
IHC protocol:	HIER pH6, Dilution 1:250
IHC test staining:	Rare cytoplasmic and nuclear positivity in several tissues.
Literature conformance:	Partly consistent with extensive gene/protein characterization data
Literature significance:	
RNA consistency:	Mainly not consistent with RNA expression data
IHC Sibling similarity:	Other antibody shows partly similar IHC staining pattern
IHC fail comment:	ANTIBODY FAILED: Improbable histological location, Not consistent with RNA

Immunofluorescence



IF Overlay:	antibody (green), anti-tubuline (red) and DAPI (blue)
IF main location:	Nucleoplasm - no score
IF additional location:	Nuclear bodies - no score
IF Antibody score:	
IF in A549:	Nucleoplasm
IF in HEK 293:	Negative
IF in U-2 OS:	Nucleoplasm Nuclear bodies

Western blot



WB Size markers (kDa):	250, 130, 100, 70, 55, 35, 25, 15, 10
WB Lanes:	Marker (1), RT4 (2), U-251 MG (3), Plasma (4), Liver (5), Tonsil (6)
WB Target weight (kDa):	1, 27, 43
WB Validation:	Supported (Band of predicted size in kDa (+/-20%) with additional bands present.)