

**RAP80 Antibody**  
**Catalog # ASC10579****Specification**

---

**RAP80 Antibody - Product Information**

Application	WB, IHC-P, IF, E
Primary Accession	<a href="#">Q96RL1</a>
Other Accession	<a href="#">EAW85043</a> , <a href="#">119605449</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	RAP80 antibody can be used for detection of RAP80 by Western blot at 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 20 µg/mL.

**RAP80 Antibody - Additional Information**

Gene ID	51720
<b>Target/Specificity</b>	
UIMC1;	

**Reconstitution & Storage**

RAP80 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

RAP80 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**RAP80 Antibody - Protein Information**

**Name** UIMC1

**Synonyms** RAP80, RXRIP110

**Function**

Ubiquitin-binding protein (PubMed:<a href="http://www.uniprot.org/citations/24627472" target="\_blank">24627472</a>). Specifically recognizes and binds 'Lys-63'-linked ubiquitin (PubMed:<a href="http://www.uniprot.org/citations/19328070" target="\_blank">19328070</a>, Ref.38). Plays a central role in the BRCA1-A complex by specifically binding 'Lys-63'-linked ubiquitinated histones H2A and H2AX at DNA lesions sites, leading to target the BRCA1-BARD1 heterodimer to sites of DNA damage at double-strand breaks (DSBs). The BRCA1-A complex also possesses deubiquitinase activity that specifically removes 'Lys-63'- linked ubiquitin on histones H2A and H2AX. Also weakly binds monoubiquitin but with much less affinity than 'Lys-63'-linked

ubiquitin. May interact with monoubiquitinated histones H2A and H2B; the relevance of such results is however unclear in vivo. Does not bind Lys-48'-linked ubiquitin. May indirectly act as a transcriptional repressor by inhibiting the interaction of NR6A1 with the corepressor NCOR1.

**Cellular Location**

Nucleus. Note=Localizes at sites of DNA damage at double-strand breaks (DSBs)

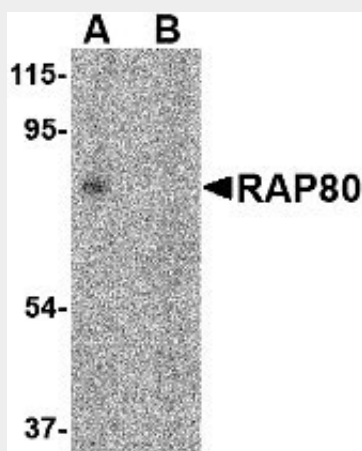
**Tissue Location**

Expressed in testis, ovary, thymus and heart. Expressed in germ cells of the testis.

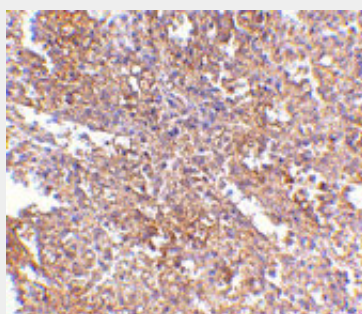
**RAP80 Antibody - Protocols**

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

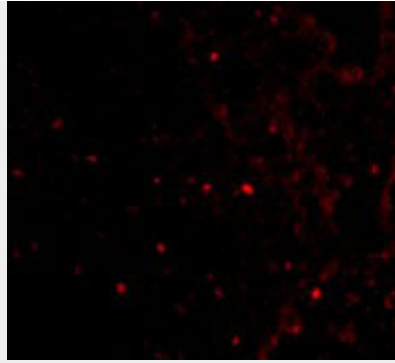
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**RAP80 Antibody - Images**

Western blot analysis of RAP80 in 293 cell lysate in (A) the absence and (B) presence of blocking peptide with RAP80 antibody at 2  $\mu$ g/mL.



Immunohistochemistry of RAP80 in human spleen tissue with RAP80 antibody at 2.5  $\mu$ g/mL.



Immunofluorescence of RAP80 in Human Spleen cells with RAP80 antibody at 20 µg/mL.

### **RAP80 Antibody - Background**

**RAP80 Antibody:** RAP80 was initially identified as zinc-finger containing nuclear protein that is highly expressed in testis and interacts with the retinoid-related testis-associated receptor (RTR). Later experiments revealed that RAP80 is recruited by the Coiled-coil domain 98 (CCDC98) protein to the breast cancer-1 protein BRCA1, allowing the formation of BRCA1 foci in response to DNA damage caused by ionizing radiation. Both RAP80 and CCDC98 are required for DNA damage resistance, G2-M checkpoint control, and DNA repair. Cells depleted of either RAP80 or CCDC98 exhibited increased sensitivity to ionizing radiation, although not as much as in BRCA1-depleted cells, suggesting that RAP80 and CCDC98 control only part of the DNA damage response role of BRCA1. At least four isoforms of RAP80 are known to exist.

### **RAP80 Antibody - References**

Yan Z, Kim YS, and Jetten AM. RAP80, a novel nuclear protein that interacts with the retinoid-related testis-associated receptor. *J. Biol. Chem.*2002; 277:32379-88.  
Wang B, Matsuoka S, Balliff BA, et al. Abraxas and RAP80 form a BRCA1 protein complex required for the DNA damage response. *Science*2007; 316:1194-1198.  
Kim H, Huang J, and Chen J. CCDC98 is a BRCA1-BRCT domain-binding protein involved in the DNA damage response. *Nat. Struct. Mol. Biol.*2007; 14:710-5.  
Liu Z, Wu J, and Yu X. CCDC98 targets BRCA1 to DNA damage sites. *Nat. Struct. Mol. Biol.*2007; 14:716-20.