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ATR Antibody

Catalog # ASC10189

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q9H6X2
Other Accession	NP_444262, 16933551
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	62789
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ATR antibody can be used for detection of ATR by Western blot at 0.5 to 2 g/mL. Antibody can also be used for immunocytochemistry starting at 2 g/mL. For immunofluorescence start at 10 g/mL.

Additional Information

Gene ID	84168
Other Names	ATR Antibody: ATR, GAPO, TEM8, ATR, Anthrax toxin receptor 1, Tumor endothelial marker 8, anthrax toxin receptor 1
Target/Specificity	ANTXR1; ATR antibody will recognize only the largest isoform.
Reconstitution & Storage	ATR 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	ATR Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ANTXR1 {ECO:0000303|PubMed:22912819, ECO:0000312|HGNC:HGNC:21014}
Function	Plays a role in cell attachment and migration. Interacts with extracellular matrix proteins and with the actin cytoskeleton and thereby plays an important role in normal extracellular matrix (ECM) homeostasis. Mediates adhesion of cells to type 1 collagen and gelatin, reorganization of the actin cytoskeleton and promotes cell spreading. Plays a role in the angiogenic response of cultured umbilical vein endothelial cells. May also act as a receptor for PLAU. Upon ligand binding, stimulates the phosphorylation of EGFR and ERK1/2 (PubMed:30241478).

Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, lamellipodium membrane; Single-pass type I membrane protein. Cell projection, filopodium membrane; Single-pass type I membrane protein. Note=At the membrane of lamellipodia and at the tip of actin-enriched filopodia (PubMed:16762926). Colocalizes with actin at the base of lamellipodia (PubMed:16762926)
Tissue Location	Detected in umbilical vein endothelial cells (at protein level). Highly expressed in tumor endothelial cells

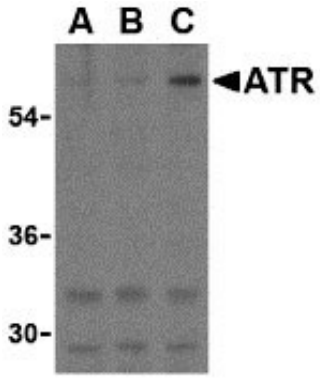
Background

ATR Antibody: The Anthrax toxin receptor (ATR) was initially discovered as the tumor endothelial marker 8 (TEM8). This protein, which exists in three isoforms (36, 40, and 60 kDa), is highly expressed in tumor vessels as well as in the vasculature of developing embryos, suggesting that it may normally play a role in angiogenesis. However, it also acts as the receptor for anthrax toxin. Following the binding of this protein by the protective antigen (PA) of anthrax, PA is cleaved and heptamerizes to form the binding site for both edema factor (EF) and lethal factor (LF). This complex is then endocytosed by the cell; acidification in endosomes allows the release of EF and LF into the cytoplasm where they interfere with MAPK signaling and induce apoptosis.

References

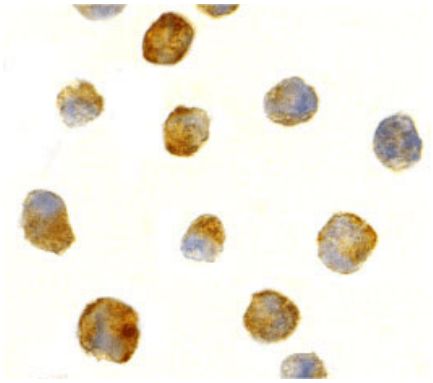
Carson-Walter EB, Watkins DN, Nanda A, et al. Cell surface tumor endothelial markers are conserved in mice and humans. Can. Res. 2001; 61:6649-6655.
Bradley KA, Mogridge J, Mourez M, et al. Identification of the cellular receptor for anthrax toxin. Nature 2001; 414:225-9.
Molloy S, Bresnahan PA, Thomas G, et al. Human furin is a calcium-dependent serine endoprotease that recognizes the sequence Arg-X-X-Arg and efficiently cleaves anthrax toxin protective antigen. J. Biol. Chem. 1992; 267:16396-402.
Duesbery N, Webb C, Vande Woude G, et al. Proteolytic inactivation of MAP-kinase-kinase by anthrax lethal factor. Science 1998; 280:734-6.

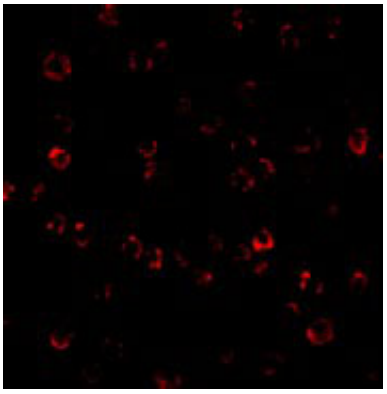
Images



Western blot analysis of ATR in K562 cell lysates with ATR antibody at (A) 0.5, (B) 1, and (C) 2 µg/mL.

Immunocytochemistry of ATR in K562 cells with ATR antibody at 2 µg/mL.





Immunofluorescence of ATR in K562 cells with ATR antibody at 10 µg/mL.

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