

Cas9 Antibody | anti-Cas9 antibody

Cas9 from *Streptococcus pyogenes*, affinity purified antibody, mouse

CATALOG #
AAA76577

APPLICATIONS
Western Blot, Immunofluorescence, Immunocytochemistry

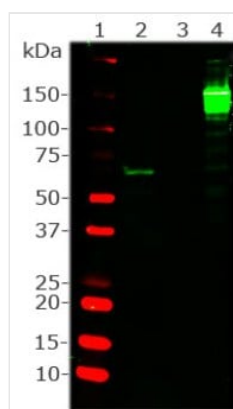
PRODUCT SYNONYMS

Cas9; Cas9 from *Streptococcus pyogenes*; affinity purified antibody; mouse; anti-Cas9 antibody

PRODUCT SPECIFICATIONS

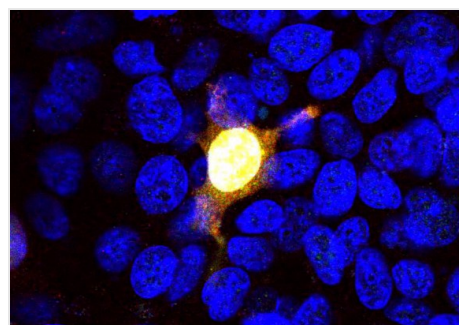
Purity/Purification	Affinity Purified
Form/Format	Liquid
Sequence Length	1379
Applicable Applications for anti-Cas9 antibody	WB (Western Blot), IF (Immunofluorescence), ICC (Immunocytochemistry)

IMAGES



Application Data

Image: Western blot analysis. Lane 1: Protein size marker with size in kiloDaltons. Lane 2: Blot of crude protein extract from Hek293 culture transfected with immunogen, the N-terminal 1-608 amino acids. Lane 3: Non-transfected control Hek293 cell extract. Lane 4: Blot of 40 ng *Streptococcus pyogenes* Cas9 was probed at 1:1,000 dilution and, as expected, the antibody also recognizes full length Cas9 protein at 160 kDa.



Application Data

Image: Transfected Hek293 cells overexpressing the N-terminal 1-608 amino acids of *S. pyogenes* Cas9. The cells were stained in red, and these cells also appear yellow since we counterstained with our rabbit Cas9 antibody, to the same construct in green, giving a yellow color. The N-terminal construct contains a nuclear localization sequence and so is predominantly nuclear in localization. Most Hek293 cells in this field are not transfected so only the nuclei of these cells can be visualized with the blue DAPI DNA stain.

ADDITIONAL INFORMATION

Related Product Information for anti-Cas9 antibody	The discovery of CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) has changed the field of gene editing. These repeated sequences are found in bacterial genomes with short DNA sequences derived from viruses which have infected the bacteria interspaced. These virally derived sequences can make short RNA sequences which can hybridize with specific viral DNA and target a nuclease, such as Cas9, to the viral sequence. So, if the bacteria are infected by this virus again, Cas9 can be directed to cleave the specific viral sequence and so inactivate the virus. By careful design of the RNA sequence the system can be used to specifically cut DNA virtually anywhere, including in living human and other mammalian cells. This allows inexpensive gene editing with unprecedented ease, and much effort is going into refining the Cas9 enzymes and their relatives for use in mammalian systems. Several varieties of Cas9 have been studied and there appear to be several other related enzymes with similar properties in bacteria. Two Cas9 homologs include Streptococcus pyogenes and Staphylococcus aureus. Staphylococcus aureus is significantly smaller and so presents less problems when packaged into vectors. The S. pyogenes protein is rather large at 1,368 amino acids, ~160kDa, so the corresponding DNA is also rather large at about 4.2 kb. Our antibody is a mouse monoclonal raised against amino acids 1-608 of Cas9 from S. pyogenes and binds the immunogen transfected into cells on western blots and in immunocytochemistry. The homologous region of the S. aureus Cas9 is not closely related in amino acid sequence and, as expected, this antibody does not recognize that protein.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	1145588244
NCBI Official Full Name	Cas9

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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