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CRISPR-Cas9 SP Antibody

Rabbit mAb
Catalog # AP91282

Product Information

Application	WB, IHC, IF, FC, ICC, IHF
Primary Accession	Q99ZW2
Clonality	Monoclonal
Other Names	Cas9; CRISPR-associated endonuclease Cas9/Csn1; CRISPR-Cas9/Csn1; csn1; SpyCas9;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	158441

Additional Information

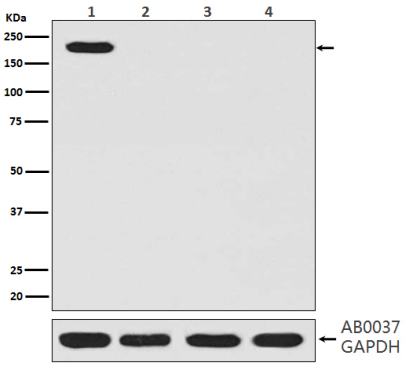
Dilution	WB 1:1000~1:5000 IHC 1:50~1:200 ICC/IF 1:50~1:200 FC 1:50
Purification	Affinity-chromatography
Immunogen	Recombinant fragment derived from Streptococcus pyogenes
Description	The CRISPR associated protein 9 (Cas9) is an RNA-guided DNA nuclease and part of the Streptococcus pyogenes CRISPR antiviral immunity system that provides adaptive immunity against extra chromosomal genetic material. CRISPR/Cas9 genome editing tools have been used in many organisms, including mouse and human cells.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	cas9 {ECO:0000255|HAMAP-Rule:MF_01480, ECO:0000303|PubMed:22745249}
Function	CRISPR (clustered regularly interspaced short palindromic repeat) is an adaptive immune system that provides protection against mobile genetic elements (viruses, transposable elements and conjugative plasmids) (PubMed:21455174). CRISPR clusters contain spacers, sequences complementary to antecedent mobile elements, and target invading nucleic acids. CRISPR clusters are transcribed and processed into CRISPR RNA (crRNA). In type II CRISPR systems correct processing of pre-crRNA requires a trans-encoded small RNA (tracrRNA), endogenous ribonuclease 3 (rnc) and this protein. The tracrRNA serves as a guide for ribonuclease 3-aided processing of pre-crRNA; Cas9 only stabilizes the pre-crRNA:tracrRNA interaction and has no catalytic function in RNA processing (PubMed:24270795). Subsequently Cas9/crRNA/tracrRNA endonucleolytically cleaves linear or circular dsDNA target complementary to the spacer; Cas9 is

inactive in the absence of the 2 guide RNAs (gRNA). The target strand not complementary to crRNA is first cut endonucleolytically, then trimmed 3'-5' exonucleolytically. DNA-binding requires protein and both gRNAs, as does nuclease activity. Cas9 recognizes the protospacer adjacent motif (PAM) in the CRISPR repeat sequences to help distinguish self versus nonself, as targets within the bacterial CRISPR locus do not have PAMs. DNA strand separation and heteroduplex formation starts at PAM sites; PAM recognition is required for catalytic activity (PubMed:24476820). Confers immunity against a plasmid with homology to the appropriate CRISPR spacer sequences (CRISPR interference) (PubMed:21455174).

Images



Western blot analysis of CRISPR-Cas9 SP expression in (1) 293T cell lysate transfected with CRISPR-Cas9; (2) 293T cell lysate; (3) 3T3 cell lysate; (4) PC12 cell lysate.

Image not found : 202311/AP91282-IF.jpg

Immunofluorescent analysis of 293T cells transfected with CRISPR-SpCas9, using CRISPR-Cas9 SP Antibody .

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.