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CRISPR/Cas9 Monoclonal Antibody [7A9]

(Catalog # A-9000)

Background
The discovery of CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) and Cas9 (CRISPR associated system or CRISPR associated protein 9 nuclease) found in bacteria to work as a defense mechanism against foreign DNA has proven to be an invaluable tool to target and modify a genetic sequence in gene editing and genome engineering applications. The system, known as CRISPR/Cas9, allows for sequence-specific cleavage of a targeted genomic locus by delivering the RNA-guided nuclease (Cas9) and appropriate guide RNAs (gRNA) into a cell. In addition, Protospacer Adjacent Motif (PAM) sequence immediately following the specificity sequence is necessary for successful binding of the Cas9 nuclease.

Concentration
1 mg/ml

Description
Mouse monoclonal antibody raised against CRISPR/Cas9, clone 7A9, generated with synthesized peptide corresponding to sequence of Streptococcus pyogene (*S. pyogenes*) CRISPR-associated endonuclease Cas9/Csn1. This Anti-Cas9 mAb can detect CRISPR/Cas9 expression in target cells by WB, IF, IP, or ELISA to confirm and verify whether gRNA and Cas9 vectors are successfully transfected.

Specificity
Recognizes both Cas9 and dCas9 (nuclease deficient Cas9)

Reactivity
Species Independent

Isotype
IgG1/Kappa

Immunogen
Recombinant N-terminal fragment of *S. pyogenes* Cas9 protein expressed in *E. coli*.

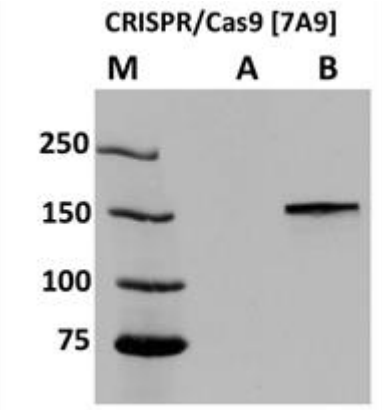
Formulation
PBS, 30% Glycerol

Storage
Store at 4°C for short-term storage (1-2 weeks). For long-term storage, aliquot and then store at −20°C. Avoid multiple freeze/thaw cycles.

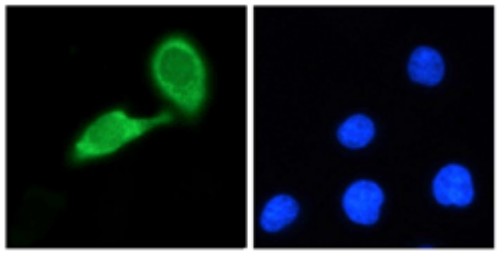
Purity
Protein G Purified

Alternative Names
Anti-Cas9, Anti-CRISPR, Anti-CRISPR/Cas9, CRISPR antibody, Cas9 antibody, Cas9 7A9, 7A9-3A3

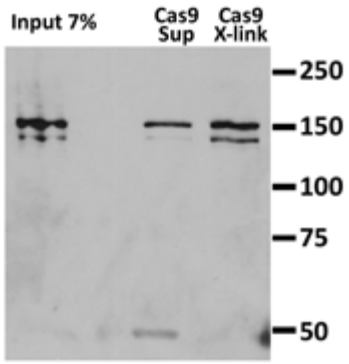
Application
WB (1:200-1:500), IP (2 µg/10^6 cells), IF (1:200-1:500), ELISA (1:1000-1:2000)



Western Blot: Shown are the results of WB on protein extracts from untransfected (A) and transfected (B) HEK293 cells using the Anti-CRISPR-Cas9 mAb.



Immunofluorescence: Hela cells were transiently transfected with an N-terminally Flag-tagged S. pyogenes Cas9 expression vector. The cells were stained with the Anti-Cas9 monoclonal antibody followed by anti-mouse-AF488 coupled secondary antibody. Nuclei were counter-stained with Hoechst 33342.



Immunoprecipitation: HEK293T expressing N-terminally Flag-tagged S.pyogenes Cas9 were lysed 72 hours post transfection. Proteins were immunoprecipitated from 100 µg of whole cell lysate for 1H at 4