



Anti-Cas9 monoclonal antibody, clone 8B10-4B4 (DCAB-WB151)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Immunogen	Recombinant fragment corresponding to Streptococcus pyogenes CRISPR-Cas9 (N terminal).
Isotype	IgG1, κ
Source/Host	Mouse
Species Reactivity	N/A
Clone	8B10-4B4
Purification	Protein G purified
Conjugate	Unconjugated
Positive Control	S2 cells transfected with CRISPR-Cas9
Format	Liquid
Concentration	1 mg/ml
Size	25 µl
Buffer	pH: 7.4; Preservative: 0.02% Sodium azide; Constituent: PBS
Preservative	0.02% Sodium Azide
Storage	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C long term.

BACKGROUND

Introduction

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). 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) (Probable). 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. Subsequently Cas9/crRNA/tracrRNA endonucleolytically cleaves linear or circular dsDNA target complementary to the spacer. The target strand not complementary to crRNA is first cut endonucleolytically, then trimmed by 3'-5' exonucleolytically. DNA-binding requires protein and both RNA species. Cas9 probably recognizes a short motif in the CRISPR repeat sequences (the PAM or protospacer adjacent motif) to help distinguish self versus nonself.

Keywords

Cas9; CRISPR-associated endonuclease Cas9/Csn1; CRISPR-Cas9/Csn1; csn1; SpyCas9; CRISPR; CRISPR-associated protein 9 nuclease