

NEW Enhanced Specificity Cas9 Protein

New Enhanced Specificity Cas9 Proteins developed by the Broad Institute now available.

Sigma-Aldrich® Cas9 Proteins

Industry leader in genome editing, Sigma-Aldrich®, is proud to announce the newest addition to our complete portfolio of CRISPR tools.

Cas9 and eSpCas9 Proteins for RNP Complexes

The Sigma-Aldrich® Cas9 proteins enable fast, cost-effective gene editing. Wild-type or enhanced specificity *S. pyogenes* Cas9 protein combine with SygRNA™ synthetic crRNAs and tracrRNAs to form ribonucleoprotein (RNP) complexes capable of targeting any eligible genomic locus of interest. Cas9 RNPs are effective when delivered by a variety of methods including microinjection, lipofection, and electroporation.

Selected Applications

- Engineer transgenic animals
- Model disease states in immortalized cells
- Create isogenic iPS cell lines

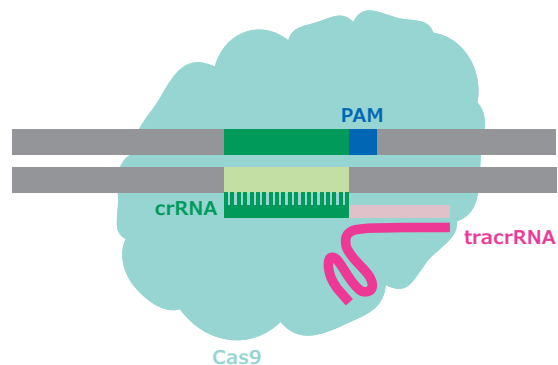


Figure 1. Three Component CRISPR Cas9 System. The Cas9 ribonucleoprotein is made up of the Cas9 protein and a guide RNA, subdivided into a tracrRNA and a crRNA. The crRNA is variable and complementary to the target of interest, while the tracrRNA sequence is static.

For a limited time, receive **30% off** our new eSpCas9 or wildtype Cas9 proteins.

Enter Promo code **U76** at checkout.

Valid through Sept. 29, 2017.

NEW Enhanced Specificity Cas9 Protein

Advantages

- Extended shelf life – Lyophilized Cas9 and eSpCas9 proteins are stable at room temperature and easily reconstituted in supplied buffers when needed
- Ready to use – Reconstitute protein and form RNP complexes in less than thirty minutes
- High quality – Sigma-Aldrich® Cas9 and eSpCas9 proteins are certified endotoxin free, validated for purity and cleavage efficiency, and are manufactured under ISO 9001:2008 quality management system

Benefits

- Efficient expression – Direct delivery of functional nuclease protein means no lag time for transcription and translation
- Simplified validation – Enhanced specificity eSpCas9 yields fewer mutations at off-target sites¹
- Experimental confidence – Reduced off targeting decreases burden of downstream analysis

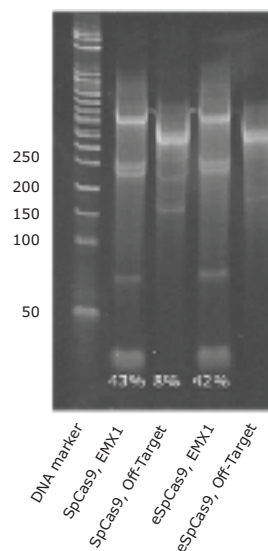


Figure 2. eSpCas9 Reduces Off-Target Cleavage Compared with Cas9. K562 cells were nucleofected with SpCas9 or eSpCas9, tracrRNA and crRNA targeting EMX1. A CEL-1 assay showed similar cleavage efficiency between Cas9 and eSpCas9, while cleavage at a known off-target site² was reduced when eSpCas9 was used compared to Cas9.

Product Details

Cat. No.	Product Name	Quantity
CAS9PROT-50UG	Cas9 Protein	50 µg
CAS9PROT-250UG	Cas9 Protein	250 µg
NEW Enhanced Specificity Cas9 Protein		
ESPCAS9PRO-50UG	eSpCas9 Protein	50 µg
ESPCAS9PRO-250UG	eSpCas9 Protein	250 µg

References:

1. Slaymaker, I.M. et al. Rationally engineered Cas9 nucleases with improved specificity. *Science* 351, 84–88 (2016).
2. Schumann, K. et al. Generation of knock-in primary human T cells using Cas9 ribonucleoproteins. *PNAS* 112, 10437–42 (2015).

For Sigma-Aldrich®'s eSpCas9 proteins, visit SigmaAldrich.com/crisprprotein
For SygRNA™ synthetic crRNA and tracrRNA, visit SigmaAldrich.com/SygRNA
For questions and requests, email CRISPR@sial.com

Merck KGaA
Frankfurter Strasse 250
64293 Darmstadt, Germany

To place an order or receive technical assistance

Order/Customer Service: SigmaAldrich.com/order
Technical Service: SigmaAldrich.com/techservice
Safety-related Information: SigmaAldrich.com/safetycenter

SigmaAldrich.com

