Alt-R S.p. HiFi Cas9 Nuclease V3

Highly specific genome editing, even under challenging conditions

Alt-R S.p. HiFi Cas9 Nuclease V3 is a high-fidelity S. pyogenes Cas9 protein that significantly reduces off-target effects without compromising performance—perfect for routine experiments and ideal for challenging genome editing applications.

The Alt-R S.p. HiFi Cas9 enzyme easily replaces wild-type Cas9 in existing applications, with no need for protocol changes. The enzyme is compatible with other components of the Alt-R CRISPR-Cas9 System to enable precise genome editing through the same advantageous ribonucleoprotein (RNP)-based workflow.

Achieve increased specificity with strongly reduced off-target activity
Obtain similar high efficiency to the market-leading Alt-R S.p. Cas9 Nuclease V3
Deliver the ribonucleoprotein efficiently by lipofection, electroporation, or microinjection
Avoid the toxicity and innate immune response activation commonly observed with in vitro transcribed Cas9 mRNA and sgRNAs

Discover more at www.idtdna.com/CRISPR-Cas9

Figure 1. Alt-R S.p. HiFi Cas9 Nuclease V3 facilitates near-wildtype on-target editing potency and significantly reduces off-target site editing. RNP complexes were formed with either Alt-R S.p. Cas9 Nuclease V3 or Alt-R S.p. HiFi Cas9 Nuclease V3, combined with an Alt-R crRNA:tracrRNA complex targeting the EMX1 gene. RNP complexes (4 µM) were delivered into HEK-293 cells via Nucleofection™ method (Lonza). Indel formation (indicated on the y-axis in log scale) at the on-target locus and 9 known off-target sites were measured by next generation sequencing (rhAmpSeq amplicon sequencing, IDT).

www.idtdna.com
### Ordering information

#### CRISPR guide RNAs

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<tr>
<th>Product</th>
<th>Size</th>
<th>Catalog #</th>
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<tr>
<td>Alt-R CRISPR-Cas9 crRNA</td>
<td>2, 10 nmol tubes or plates</td>
<td>Order at <a href="http://www.idtdna.com/CRISPR-Cas9">www.idtdna.com/CRISPR-Cas9</a></td>
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<td>5 nmol</td>
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<td>Alt-R CRISPR-Cas9 tracrRNA</td>
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<td>100 nmol</td>
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#### HiFi Cas9 Nuclease

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<td>500 µg</td>
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#### Control kits*

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<tr>
<td>Alt-R CRISPR-Cas9 Control Kit, Mouse (2 nmol)</td>
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<tr>
<td>Alt-R CRISPR-Cas9 Control Kit, Rat (2 nmol)</td>
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* Control kit components are also available individually.

### Control kit components

- Alt-R CRISPR HPRT Positive Control crRNA
- Alt-R CRISPR Negative Control crRNA #1
- Alt-R CRISPR-Cas9 tracrRNA
- Alt-R HPRT PCR Primer Mix
- Nuclease-Free Duplexing Buffer

### Featured citations:


For more information and to order, visit [www.idtdna.com/CRISPR-Cas9](http://www.idtdna.com/CRISPR-Cas9).