Alt-R™ CRISPR-Cas9 sgRNAs

Chemically synthesized and modified single guide RNAs for outstanding CRISPR performance and quality

sgRNAs in days, not weeks, with fast synthesis time (3–5 business days*)

Guaranteed function with predesigned sgRNAs

Custom features to meet your needs, such as a variety of deliverable sizes, chemical modifications, and purification

Trusted quality and manufacturing, delivering optimized synthesis and purification to mitigate oligo cross contamination risk

* 3–5 business days for most standard requests. Custom requests may require additional manufacturing time.

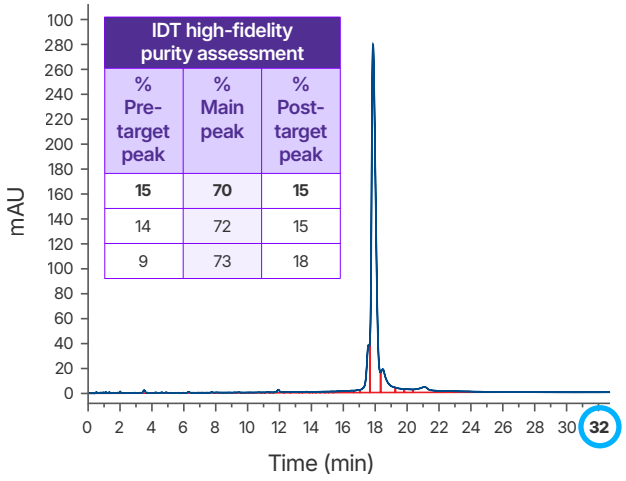
Alt-R CRISPR-Cas9 single guide RNAs (sgRNAs) comprise both crRNA and tracrRNA sequences within a single molecule. High editing levels are observed at >95% of sites in Jurkat cells (**Figure 1**). Alt-R Cas9 sgRNAs are ideal for challenging conditions such as high nuclease environments or when co-delivered with Cas9 mRNA. They contain chemical modifications that provide increased stability, potency, and resistance against nuclease activity (**Figure 2**) [**1**].

Customizable sgRNAs to fit every project and every budget

Available in a wide range of deliverable yields, Alt-R Cas9 sgRNAs can be customized to suit small and large experiments. They are available in tube or plate format in a variety of scales from 2 nmol and up. Further options for custom chemical modifications, additional purification, and custom formulation provide flexibility to meet your experimental needs.

Better QC for more accurate purity

A1. **High-fidelity** purity assessment



A2. **Low-fidelity** purity assessment

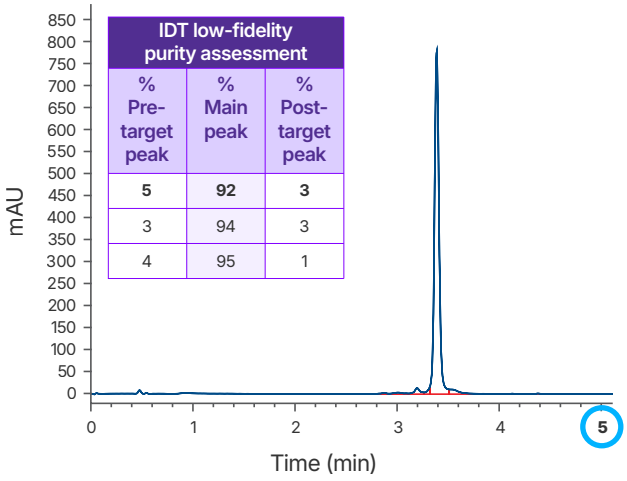


Figure 1.IDT's gRNA UHPLC purity assessment method vs a leading competitor. Left chromatogram (A1) represents purity of competitor G sgRNA using IDT's high-fidelity QC method. Right chromatogram (A2) is purity as reported by a low-fidelity QC method performed at IDT which **does not allow enough time for sample separation and indicates artificially high purity.** This low-fidelity method was developed to demonstrate the **importance of a longer run time for purity accuracy.** It was repeated for 3 guides ranging from 100–143 nt (one representative chromatogram shown).

Purity & editing efficiency of HPLC gRNA

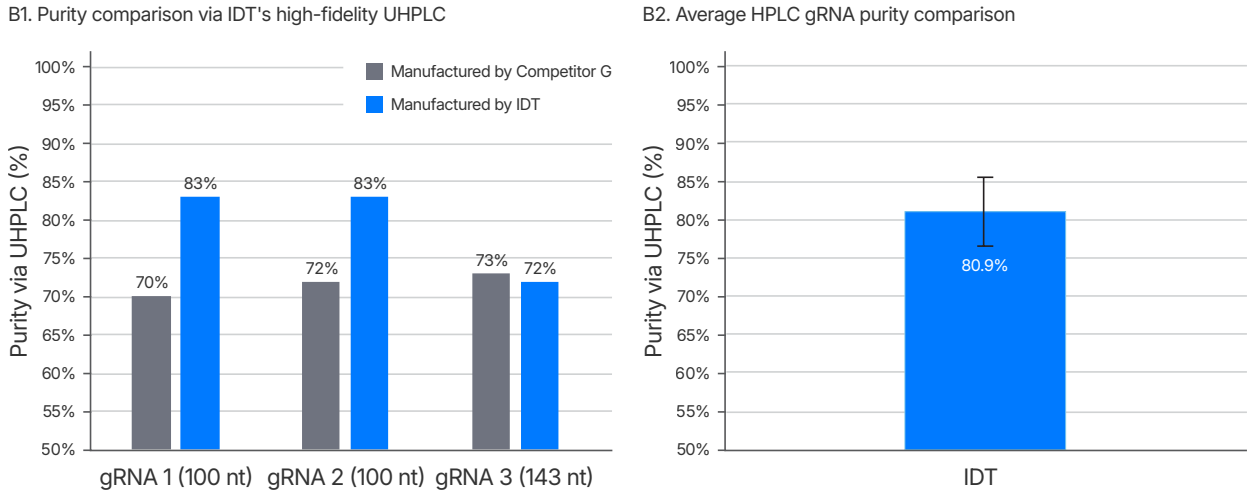


Figure 2.Purity comparison (B1) Average gRNA purity of three gRNAs of identical sequence from a competitor and IDT using IDT's **high-fidelity QC to eliminate inflated purity estimates. (B2)** Average purity of IDT HPLC gRNAs with a range of chemical modification patterns n = 102.

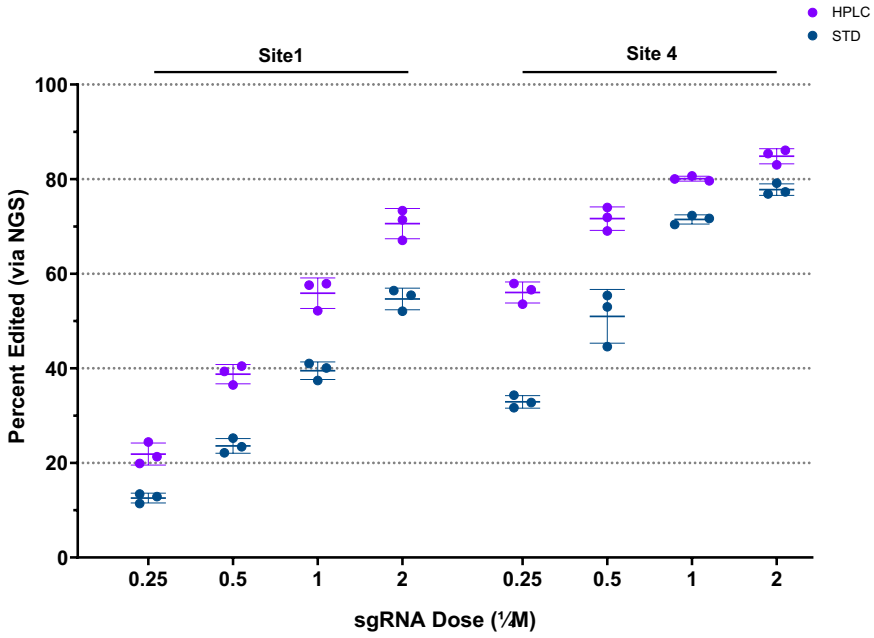


Figure 3: HPLC purified gRNAs show higher editing at lower doses in primary T-cells T-cells were transfected at various doses with two different gRNAs purified by either standard desalting (STD) or HPLC. The Cas9 nuclease was transfected alongside the gRNA as mRNA. The higher editing efficiency achieved by HPLC-purified gRNAs in some T-cells, especially at lower doses, highlights an **advantage HPLC-purification may offer in cases where lower doses due to toxicity are desired.**

For more information, visit **idtdna.com/CRISPR**