

# CUTANA® *E. coli* Spike-in DNA



EpiCypher®

**Catalog No.** 18-1401  
**Lot No.** 20120001-26  
**Pack Size** 100 ng

## Product Description:

Fragmented DNA derived from *Escherichia coli* (*E. coli*) can be used as a spike-in control for experimental normalization in Cleavage Under Targets and Release Using Nuclease (CUT&RUN). CUTANA *E. coli* Spike-in DNA contains sufficient material for 100-200 CUT&RUN samples (high and low abundance targets, respectively).

## Formulation:

100 ng lyophilized DNA. \*NOTE: May not be visible.

## Storage and Stability:

Stable for 2 years at -20°C from date of receipt. After resuspending, aliquots should be stored at -80°C.

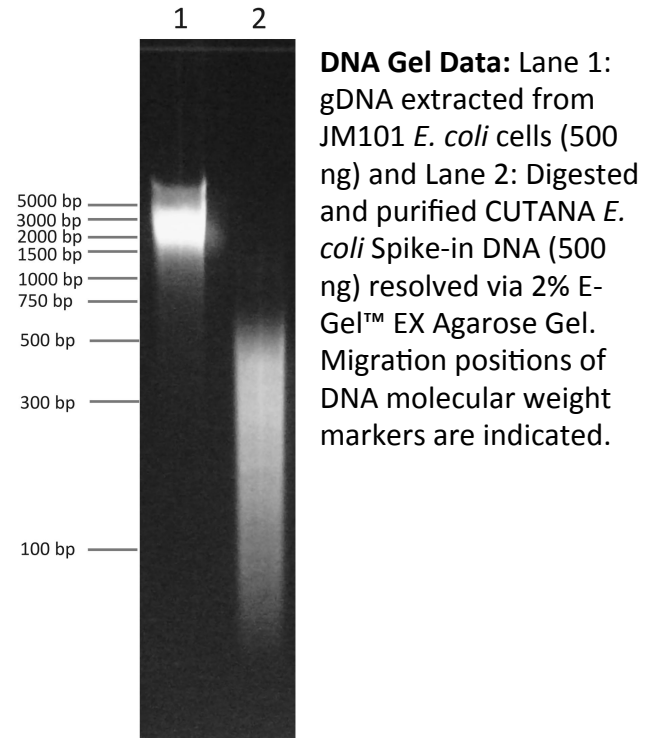
## Application Notes:

Prior to opening, pellet DNA by quick spin in a benchtop microfuge. Reconstitute in 200 µL DNase free water (0.5 ng/µL). Vortex tube on all sides to ensure complete resuspension. Quick spin in benchtop microfuge to pellet contents prior to use.

## Use in CUT&RUN:

1. Use in combination with CUTANA pAG-MNase for ChIC/CUT&RUN (EpiCypher 15-1016), which has very low levels of *E. coli* DNA.
2. Add 1-2 µL\* (0.5-1 ng) *E. coli* Spike-in DNA directly to the Stop Buffer, which quenches calcium-mediated pAG-MNase DNA digestion (see protocol: [www.epicypher.com/resources/protocols/](http://www.epicypher.com/resources/protocols/)). Gently vortex to mix, and add to CUT&RUN samples.  
*\*NOTE: Based on target abundance and antibody efficiency, the amount of E. coli DNA may need to be adjusted. Aim for spike-in DNA to comprise ~1% (0.2-5%) of total sequencing reads (see Table, right).*
3. After sequencing, align reads to the reference genome from the experimental samples (*e.g.* human) as well as to the *E. coli* genome.
4. Normalize data by following recommendations described in the EpiCypher CUTANA CUT&RUN Protocol: [www.epicypher.com/resources/protocols/](http://www.epicypher.com/resources/protocols/).

## References:



<i>E. coli</i> Spike-in DNA	Target	Total Reads	<i>E. coli</i> Reads	% <i>E. coli</i> Reads
0.5 ng	IgG	3,644,233	155,549	4.27%
	H3K4me3	3,121,112	42,210	1.35%
	H3K27me3	5,254,299	8,511	0.16%
1.0 ng	IgG	2,569,291	241,645	9.41%
	H3K4me3	3,127,912	147,565	4.72%
	H3K27me3	9,650,258	22,419	0.23%

**CUT&RUN Sequencing Data:** CUTANA *E. coli* Spike-in DNA (0.5 and 1.0 ng) was added to CUT&RUN samples using 500,000 K562 cells enriched for a low abundance target (H3K4me3, EpiCypher Catalog No. 13-0041), a high abundance target (H3K27me3, EpiCypher Catalog No. 13-0030) and IgG negative control (EpiCypher Catalog No. 13-0042). Total numbers of paired-end sequencing reads, reads aligned to *E. coli*, and percentage of total sequencing reads aligned to *E. coli* spike-in DNA are shown. Green boxes highlight the recommended *E. coli* DNA spike-in amounts for each target.

This product is for *in vitro* research use only and is not intended for use in humans or animals.