



## RNase III

**Product Number: RA07**

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### Shipping and Storage

Can be stored for 2 years at -20°C to avoid repeated freezing and thawing.

### Component

Component	500U	2500U
E. coli RNase III	500U	2500U
10× E. coli RNase III Buffer	0.5mL	1.5mL
10× EDTA (500mM)	0.5mL	
200mM MnCl <sub>2</sub>	0.5mL	
Glycogen RNase-Free (10mg/mL)	0.5mL	

### Description

RNase III can cleave longer double-stranded RNA (dsRNA) into a group of small interfering RNAs (siRNAs) of varying sizes, ranging from 18-25bp, making it more suitable for RNA interference experiments in mammalian cells. Using 1.5 units (1µL) of ShortCut RNase III can completely digest 1µg of dsRNA into siRNAs.

The E. coli RNase III produced by our company is a recombinant protein expressed through recombinant methods and purified through multiple steps.

### Feature

1. Provide siRNA for RNA interference research
2. Target determination
3. Remove dsRNAs
4. Preparation of effective siRNA suitable for any gene target
5. Heterologous siRNA can ensure silencing of target genes
6. From DNA template to transfection only takes one day
7. Avoiding the problem of repeatedly exploring experimental conditions when using synthetic siRNA.

### Unit definition

1 active unit refers to the amount of enzyme required to cleave 1µg dsRNA into siRNA in a 1 × E. coli RNase III reaction buffer system at 37 °C for 20 minutes.

### Activity determination conditions

1 × RNase III reaction buffer: 50mM Tris HCl, 50mM NaCl, 1mM DTT (pH 7.5 @ 25°C). Add 20mM MnCl<sub>2</sub> (provided with the product) and incubate at 37°C.

### Quality control

After strict quality control testing, the product is ensured to have the highest activity and purity.

### Enzyme storage buffer

500mM NaCl, 10mM Tris-HCl, 0.5mM EDTA, 1mM DTT, 50% Glycerol, pH 8 @ 25°C

### Use examples

**For Research Use Only**



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1. Prepare the reaction system according to the table below:

Component	Volume or concentration
10×Buffer	2μL
Substrate	XμL
Enzyme (U/μL)	1-2μL
H <sub>2</sub> O	YμL
Total volume	20μL

2. Reacting at 37 °C for 60 minutes,
3. Inactivated enzyme at 75°C for 15 minutes,
4. Urea denaturing PAGE electrophoresis is used to detect enzyme cleavage products, or subsequent operations can be carried out according to the experimental purpose.