60 Hickory Drive
Waltham, MA 02451
United States

Tel: (617) 665-7333
support@kactusbio.us
kactusbio.com

RNase III

RNI-EE601

Product Component	Sizes
RNase III (2U/µL)	40U / 200U / 2000U
10X RNase III Reaction Buffer	100µL / 500µL / 5mL
10X $MnCl_2$ (200mM)	100µL / 500µL / 5mL

Storage/Transport Transport on dry ice. Store at -20 ±5°C for 24 months. Avoid repeated freezing and thawing.
Form Liquid
Source *E. coli*
Concentration 2U/µL
RNase III Storage Buffer 10 mM Tris, 200 mM KCl, 5 mM β-ME, 0.05 mM EDTA, 200 µg/mL HSA, 50% Glycerol, pH 7.5
10X RNase III Reaction Buffer 500mM Tris-HCl, 500mM NaCl, 10mM DTT,pH 7.5
Unit Definition One unit (U) is defined as the amount of enzyme required to digest 1µg dsRNA into siRNA at 37°C in a 50 µL reaction mixture for 20 minutes.

Product Description
RNase III is a double-stranded RNA (dsRNA) -specific endoribonuclease that can cleave dsRNA into 18-25 bp interfering RNAs (siRNA) with 2 nucleotide 3' overhangs, 5' phosphate and 3' hydroxyl. RNase III can be used to generate siRNA library from long dsRNA for gene silencing and target validation; RNase III can also be used to remove dsRNA, a side product with immunogenicity, that is generated during in vitro transcription.

Applications
- Making siRNA library for any target gene
- Gene silencing and target validation
- Removal of dsRNA from in vitro transcription

Recommended Protocol
1. Prepare the reaction mixture.

Reagent	Volume
RNase-free Water	Up to 100 µL
10X RNase III Reaction Buffer	10 µL
dsRNA	Up to 10 µg
RNase III (2U/µL)	10 µL
$MnCl_2$ (200mM)	10 µL

2. Incubate at 37°C for 20 minutes.
3. The reaction can be terminated by adding EDTA to a final concentration of 5 mM.

Notes
1. It is recommended to add EDTA to terminate the reaction. Heat inactivation of RNase III is not recommended.