

Product Components

Components	Catalog	Size-1	Size-2
		4,000 U	20,000 U
RNase Inhibitor, Mammalian (200,000 U/mL)	RM29531	20 µL	100 µL
1XRI Dilution Buffer, Glycerol-free	RM29483	1 mL	1 mL

Product Description

RNase Inhibitor, Mammalian has a molecular weight of 50 kD and can efficiently non-covalently bind to RNase A, B, and C in a 1:1 ratio, effectively inhibiting the activity of these enzymes, with a binding constant greater than 10^{14} . This product does not inhibit the activity of RNase 1, RNase T1, S1 nuclease, RNase H, or RNases derived from the *Aspergillus* genus. Furthermore, RNase Inhibitor, Mammalian does not inhibit the activity of the following polymerases when used in conjunction: Taq DNA polymerase, AMV or M-MuLV reverse transcriptase, and bacteriophage RNA polymerases (such as SP6, T7, or T3). This product is a high-concentration RNase inhibitor that, when used in conjunction with a glycerol-free dilution solution, can be applied for lyophilized reactions.

Product Source

An *E. coli* strain that carries the Ribonuclease Inhibitor gene from Porcine.

Unit Definition

One unit is defined as the amount of RNase Inhibitor, Mammalian required to inhibit the activity of 5 ng of RNase A by 50%.

Storage Buffer

20 mM HEPES-KOH, 50 mM KCl, 8 mM DTT, 50% Glycerol, pH 7.6 @ 25°C

Storage Temperature

-20°C

Notes

1. RNase Inhibitor becomes inactive under denaturing conditions, while RNases remain active under such conditions. Therefore, it is essential to avoid denaturing the inhibitor that non-covalently binds to RNase. To prevent the release of RNase due to the inactivation of the inhibitor from denaturation, temperatures above 50°C or the use of high concentrations of urea or other denaturants should be avoided.
2. The recommended concentration of RNase inhibitor in the reaction system is 1 U/µL. The RNase inhibitor should be added before other components that may be sources of RNase contamination (such as enzymes and trace plasmids).
3. RNase Inhibitor, Mammalian (RM2953) should not be subjected to repeated freeze-thaw cycles. It is recommended to aliquot the product for use, and the number of freeze-thaw cycles should not exceed five times.