

RiboSafe RNase Inhibitor

Shipping: On Dry/Blue Ice Catalog numbers

Batch No.: See vial
BIO-65027: 2500 u (40 u/μL)
BIO-65028: 10,000 u (40 u/μL)

Store at -20 °C



Storage and stability:

The RiboSafe RNase Inhibitor is shipped on dry/blue ice. All kit components should be stored at -20°C upon receipt. Excessive freeze/thawing is not recommended.

Expiry:

When stored under the recommended conditions and handled correctly, full activity of the kit is retained until the expiry date on the outer box label.

Unit Definition: One unit inhibits 5 ng of RNase A by 50%.

Quality Control:

RiboSafe RNase Inhibitor is extensively tested for activity, SDS-PAGE purity, absence of endonucleases, nickases and exonucleases.

Safety precautions:

Please refer to the material safety data sheet for further information.

Notes:

For research or further manufacturing use only.

Description

Ribonuclease Inhibitor (RiboSafe RNase Inhibitor) is a recombinant protein which inhibits different RNases (A, B, C) by binding non-covalently in a 1:1 ratio. With an association constant of 10^{14} M, RiboSafe RNase Inhibitor is useful in any applications where the presence of RNases is a potential problem. RiboSafe RNase Inhibitor is tested for activity, SDS-PAGE purity, and the absence of endonucleases, nickases and exonucleases.

Features

- Complete inhibition of RNase A, B and C
- DNase/RNase and Nickase-free
- No inhibition of polymerase/transcriptase activity
- Stable over a wide range of pH, DTT concentrations and temperatures

Applications

- RNA purification
- cDNA preparation by reverse transcription
- *in vitro* RNA transcription
- *in vitro* protein synthesis

Source

E. coli strain carrying the gene of RiboSafe RNase Inhibitor. RNase A is not involved in the purification process.

Associated products

Product Name	Pack Size	Cat. No.
ISOLATE II Plant RNA Kit	50 Preps	BIO-52077
ISOLATE II RNA Kit	50 Preps	BIO-52072

Typical Reaction Conditions:

RNase Inhibitor must be used at a final concentration of between 10-40 u in a 25 μL reaction mix (This is dependent on the RNase contamination in the sample). For optimal RNase inhibition, a final concentration of 1 mM DTT is required.

Citations:

1. Maharani, N. R., H. *et al.*, *Tropical Animal Sci. J.* **45(2)**, 141-153.(2022).
2. El-Ganiny, Amira M., *et al.*, *Saudi Pharmaceutical J.* (2022).
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4. Lamprecht, R.L., *et al.* *Eur. J. Plant Pathol.* **123**, 105-110 (2009).
5. Castro, R., *et al.* *Mol. Immunol.* **45(2)**, 428-437 (2008).
6. Das, B.K., *et al.* *Fish Shellfish Immunol.* **23(4)**, 825-830 (2007).

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Troubleshooting Guide

Problem	Possible Cause	Recommendation
No PCR product	Missing component	- Check reaction set-up and volumes used
	Defective component	- Check the aspect and the concentrations of all components as well as the storage conditions. If necessary test each component individually in controlled reactions
	Enzyme concentration too low	- Increase enzyme quantity in 0.5 U (0.2 µL) increments
	Cycling conditions not optimal	- Decrease the annealing temperature - Run a temperature gradient to determine the optimal annealing temperature - Increase the extension time, especially if amplifying a long target - Increase the number of cycles
	Difficult template e.g. GC or AT-rich, or high level of secondary structure	- Increase initial denaturation time to 5 minutes - Increase denaturation time
Smearing or Non-Specific products	Excessive cycling	- Decrease the number of cycles
	Extension time too long	- Decrease the extension time
	Annealing temperature too low	- Increase the annealing temperature
	Primer concentration too high	- Decrease primer concentration
	Contamination	- Replace each component in order to find the possible source of contamination - Set-up the PCR reaction and analyze the PCR product in separated areas

Technical Support

If the troubleshooting guide does not solve the difficulty you are experiencing, please contact your local distributor or our Technical Support with details of reaction setup, cycling conditions and relevant data.

Email: mbi.tech@meridianlifescience.com

Associated Products

Product Name	Pack Size	Cat. No.
dNTP Set	4 x 25 µmol	BIO-39025
dNTP Mix	500 µL	BIO-39028
ACCUZYME™ Mix	2 x 1.25 mL	BIO-25027

TRADEMARKS

1. ACCUZYME is a Trademark of Bioline Reagents Ltd

Product Citations

1. Kitazono, A.A. *Gene* doi:10.1016/j.gene.2011.06.006 (2011).
2. Batchelor, D.J. *et al. Am. J. Physiol.* **300**, R67-R75 (2011).
3. Chiang, C. *et al. J. Bacteriol.* **193**, 52-62 (2011).
4. Chin, G.L., *et al. Appl. Envir. Microbiol.* **77**, 3451-3460 (2011).
5. Cheng, C., *et al. Mol. Cell. Biol.* **31**, 983-997 (2011).
6. Chakrabarti, M., *et al. Virol. J.* **7**, 181 (2010).
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10. Pacheco, A., *et al. Microbiol.* **155**, 2021-2028 (2009).
11. Wilson, A. C., *et al. J. Bacteriol.* **190(15)**, 5522-5525 (2008).

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