



EliZyme™ RiboProtect

Intended use:

For Research Use Only. Not for use in diagnostic procedures.

Storage:

Upon arrival store components at -20 °C. Avoid prolonged exposure to light. When stored under these conditions, the kit will retain full activity until the expiration date indicated on the kit label. Avoid repeated freeze/thaw cycles and frequent temperature changes.

Product description

EliZyme™ RiboProtect RNase Inhibitor is an engineered recombinant protein meticulously designed to safeguard your RNA from the detrimental effects of ribonuclease (RNase) digestion. With its broad-spectrum activity, this inhibitor effectively blocks a wide range of ribonucleases, ensuring reliable protection for your RNA. EliZyme™ RiboProtect RNase Inhibitor is specifically developed for RNA-sensitive applications such as RT-qPCR, cDNA synthesis, and RNA-seq, where even small amounts of RNase can significantly compromise RNA quality and experimental outcomes.

Derived from High Five insect cells expressing a modified human placental gene, EliZyme™ RiboProtect RNase Inhibitor has a molecular weight of 50 kDa. It forms noncovalent complexes with RNases in a 1:1 ratio, exhibiting a K_i value of approximately 10–14 M when binding to RNase A1. Its rapid kinetics of association with RNases ensures immediate protection of your RNA.

Unlike human placental proteins containing cysteine residues that are susceptible to oxidation, EliZyme™ RiboProtect RNase Inhibitor lacks these residues. Consequently, it exhibits enhanced resistance to oxidative stress. EliZyme™ RiboProtect RNase Inhibitor demonstrates exceptional thermostability, retaining its activity up to 65 °C for 30 minutes. It effectively inhibits a wide range of ribonucleases, including neutral-type eukaryotic RNases (e.g., RNases A, B, and C). However, it does not inhibit RNases T1, T2, U1, U2, CL3, RNase I, and H. Moreover, this inhibitor is free from ribonucleases and phosphatases and can be inactivated by heating at 75 °C for 15 minutes.

Content

	Ref. No.	Content	Size
EliZyme™	EZ2425	1×62.5 µl (40 U/µl)	2500 U
RiboProtect	EZ2410	2×125 µl (40 U/µl)	10000 U

Instructions for use

To ensure optimal protection of your RNA template, we recommend adding 40 units of EliZyme™ RiboProtect RNase inhibitor to a 20 µl reaction, which corresponds to 1 µl per reaction and



achieves a final concentration of 2 U/μl. It may be necessary to adjust this amount through titration when working with templates obtained from sources rich in RNases.

For RT-qPCR reactions, our kits already contain sufficient EliZyme™ RiboProtect RNase inhibitor to effectively safeguard the RNA template in most cases. However, when working with templates derived from RNase-rich sources, we suggest supplementing the reaction with an additional 0.4 U/μl of EliZyme™ RiboProtect RNase inhibitor. This can be achieved by adding an extra 0.2 μl of EliZyme™ RiboProtect RNase inhibitor to a 20 μl reaction.

EliZyme™ RiboProtect RNase inhibitor can be utilized to prevent RNA degradation and prolong RNA viability during storage following extraction. In this scenario, we recommend using EliZyme™ RiboProtect RNase inhibitor as a 100x solution, with a concentration of 0.4 U/μl in the storage buffer. Once again, templates derived from RNase-rich sources may require higher amounts of the inhibitor.

Additionally, EliZyme™ RiboProtect RNase inhibitor can effectively block RNA degradation during RNA extraction in methods that do not include a protein denaturation step, considering the proteinaceous nature of the inhibitor itself. In such cases, it is recommended to maintain a final concentration of ≥0.4 U/μl.

Manufacturer:

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Catalog number



Batch code



Use by (last day of month)



Upper limit of temperature



Manufacturer



Contains sufficient "N" tests