



Overview

Applications

Stability at 37°C

Stability at 50°C

Stability at 60°C

Freeze-thaw
cycles

Efficient RNA
protection

Lot-to-lot
consistency

pH stability

Ordering and
Contact

RNase Inhibitor Hu

Optimal RNA protection against degradation

Sample to Insight



RNase Inhibitor Hu – overview

Overview

Ensure optimal protection and integrity of RNA in your applications with RNase Inhibitor Hu.

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- A 50 kDa recombinant human placental protein expressed in *Escherichia coli*
- Stable at 37°C for at least 4 weeks and at 50°C for at least 24 hours
- Completely inhibits RNase A, RNase B, and RNase C activity
- Free of DNase and RNase activity
- High concentration formulation available (100 kU/mL)
- Active over a broad pH range (5.5 to 9.0), as well as in diverse reaction conditions and various buffers
- No inhibition of polymerases or reverse transcriptases



RNase Inhibitor Hu – applications

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- RNA-related molecular applications
- cDNA synthesis, RT-PCR, RT-qPCR, RT-LAMP
- In vitro transcription and translation
- RNA isolation, purification, and sequencing



RNase Inhibitor Hu thermostability at 37°C

Overview

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Freeze-thaw cycles

Efficient RNA protection

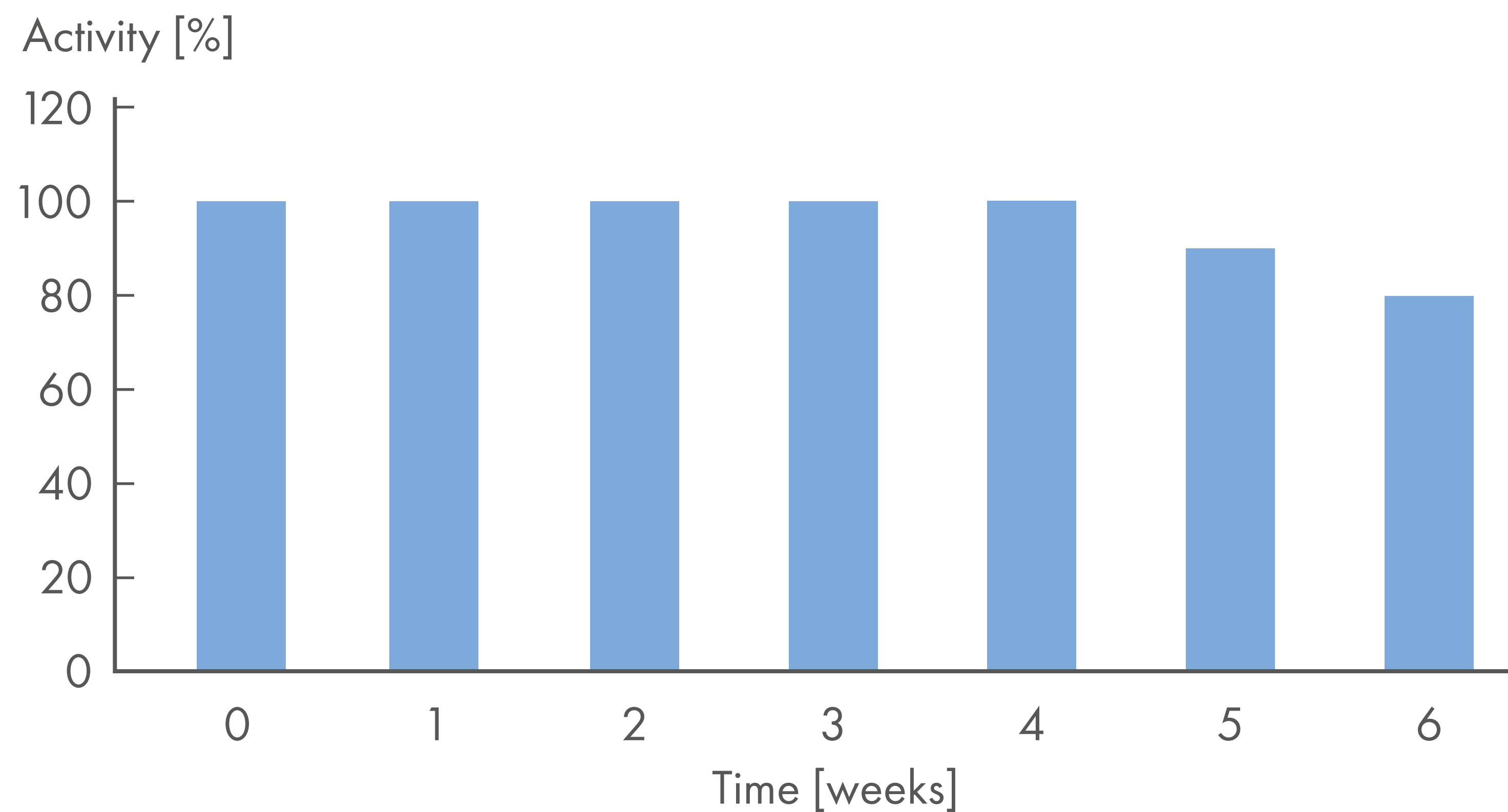
Lot-to-lot consistency

pH stability

Ordering and Contact

RNase Inhibitor Hu displays full stability at 37°C for at least 4 weeks

High thermostability guarantees high activity even after exposure to increased temperatures e.g., during worktime on the bench or demanding shipping conditions.



Stability of RNase Inhibitor Hu at 37°C over a 6-week period.

After the given incubation period, 40 U of RNase Inhibitor Hu was incubated with 5 ng of RNase A and 1 µg of RNA for 15 minutes at 37°C.



RNase Inhibitor Hu thermostability at 50°C

Overview

Applications

Stability at 37°C

Stability at 50°C

Stability at 60°C

Freeze-thaw cycles

Efficient RNA protection

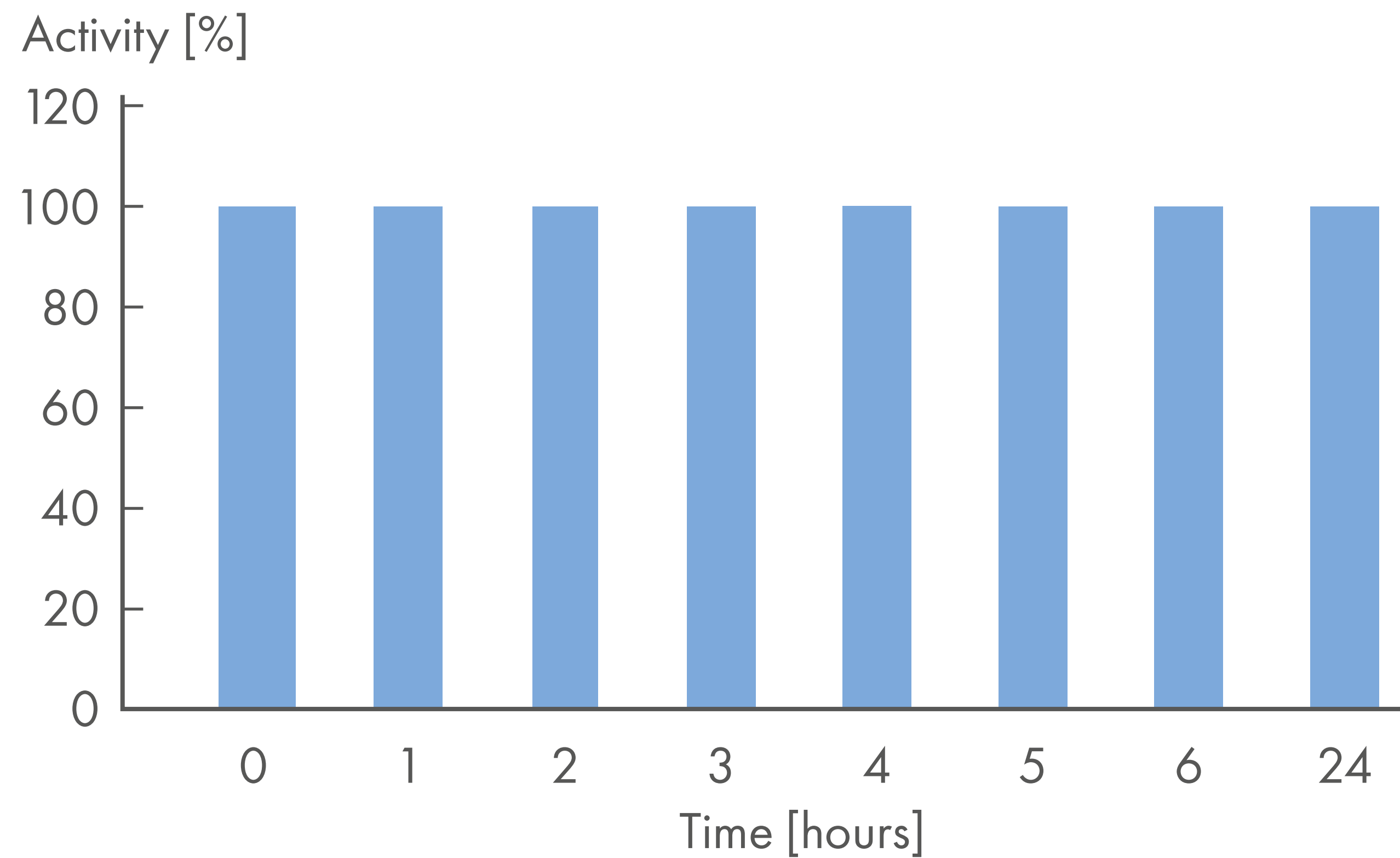
Lot-to-lot consistency

pH stability

Ordering and Contact

RNase Inhibitor Hu demonstrates stable activity at 50°C for at least 24 hours

RNase Inhibitor Hu is applicable for molecular biology applications at elevated temperatures. Its stability ensures maximum protection of RNA during reverse transcription or amplification.



Stability of RNase Inhibitor Hu incubated at 50°C over a 24 hour period.

After the incubation time 40 U of RNase Inhibitor Hu was incubated with 5 ng of RNase A and 1 µg of RNA for 15 minutes at 37°C.



RNase Inhibitor Hu thermostability at 60°C

Overview

Applications

Stability at 37°C

Stability at 50°C

Stability at 60°C

Freeze-thaw cycles

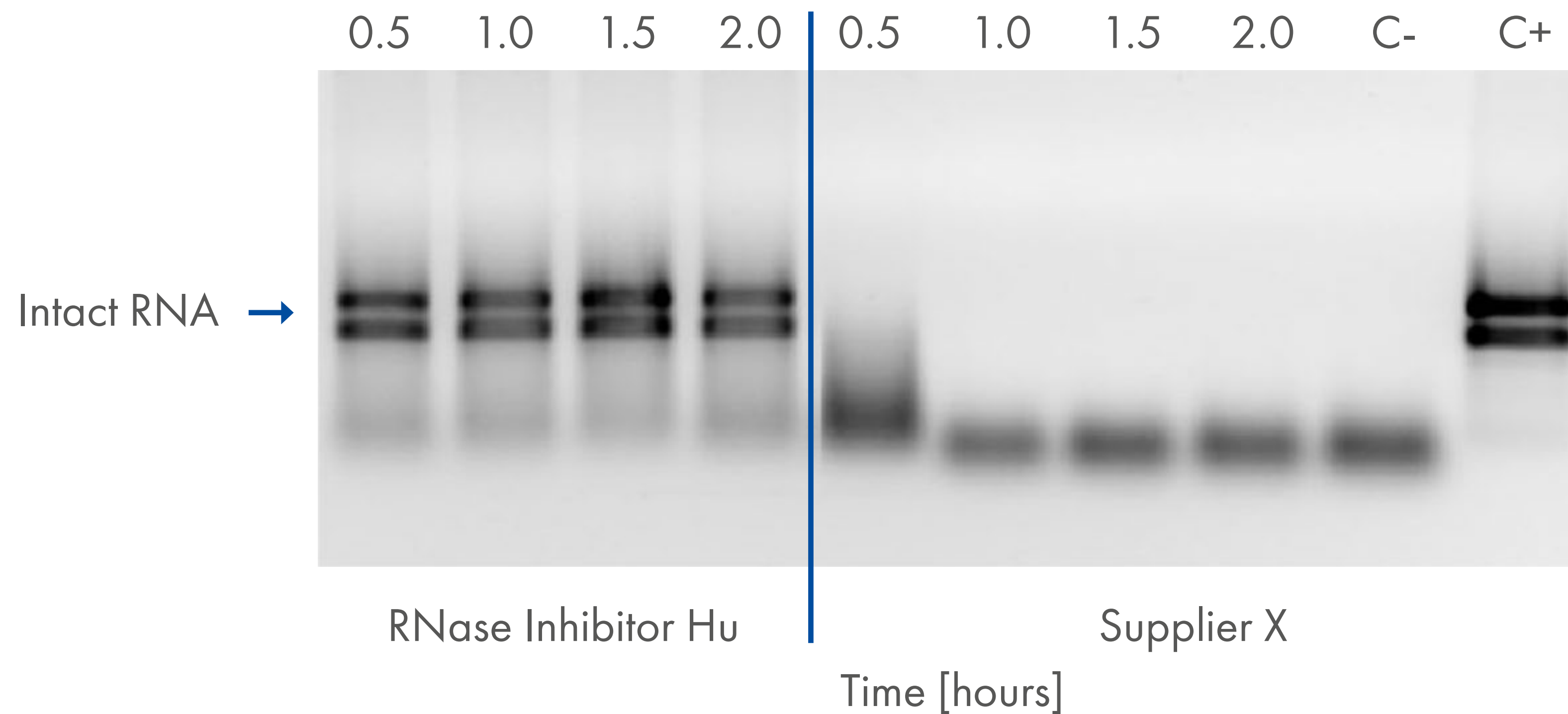
Efficient RNA protection

Lot-to-lot consistency

pH stability

Ordering and Contact

An irreplaceable component for RNA synthesis and reverse transcription in stringent thermal conditions, RNase Inhibitor Hu remains fully active for two hours at 60°C



Stability comparison at 60°C

RNase Inhibitor Hu and a product from an alternative supplier were incubated at 60°C for 2 hours to test stability. At 30-minute time points, 40 U of RNase Inhibitor Hu was incubated with 5 ng of RNase A and 1 g of RNA for 15 minutes at 37°C. Results are shown in 1% agarose gel. Unaffected RNA should present as two clear bands.



RNase Inhibitor Hu is stable through multiple freeze-thaw cycles

Overview

Applications

Stability at 37°C

Stability at 50°C

Stability at 60°C

Freeze-thaw cycles

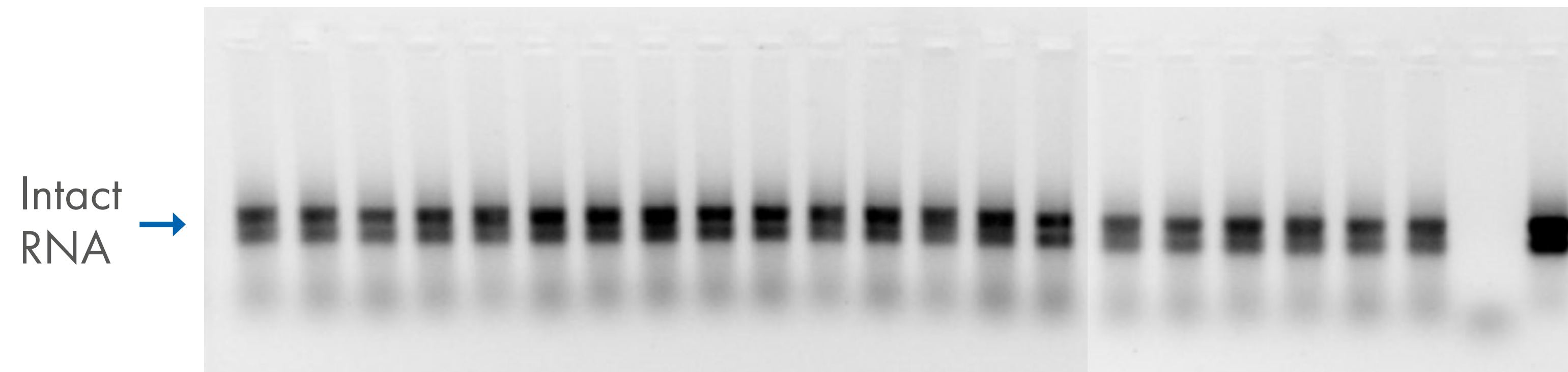
Efficient RNA protection

Lot-to-lot consistency

pH stability

Ordering and Contact

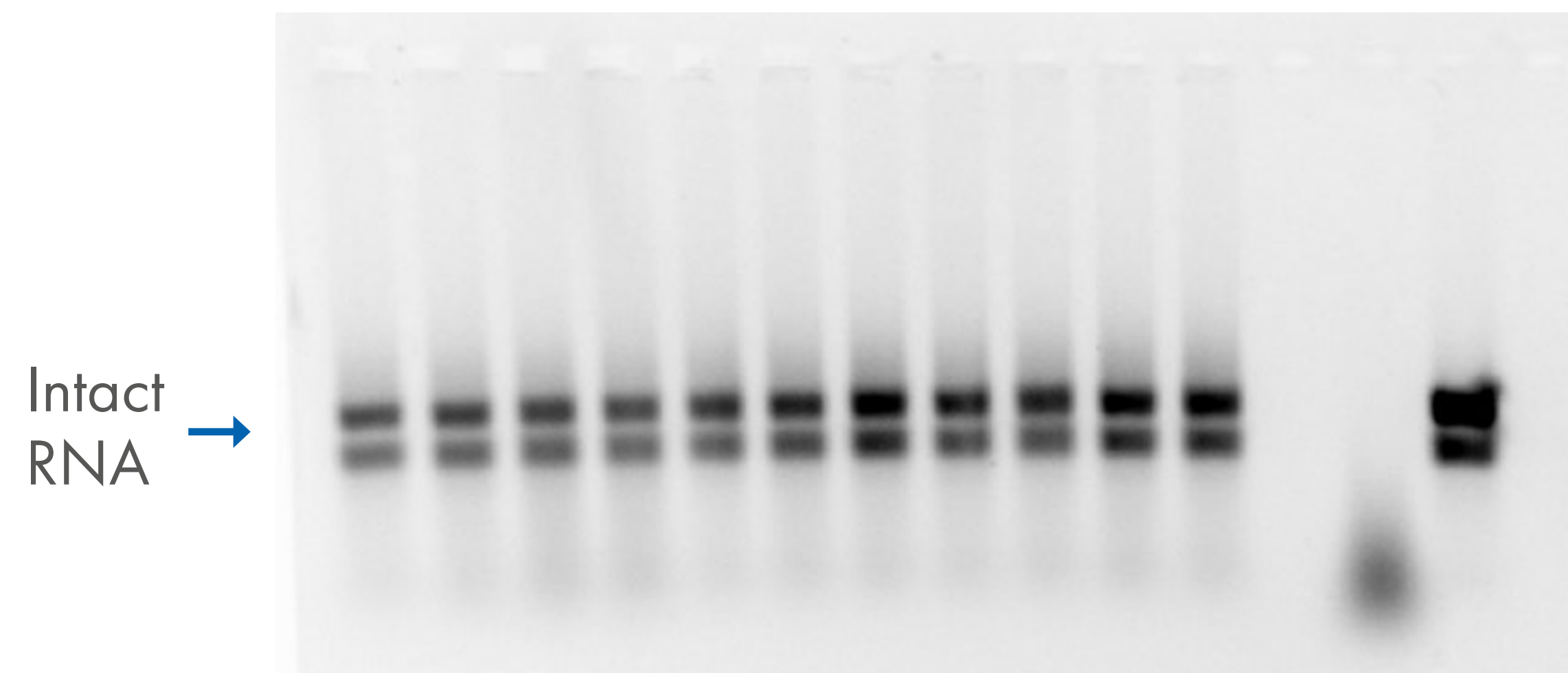
Cycles 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 C- C+



RNase Inhibitor Hu remains fully active after at least 20 cycles of temperature changes from -20°C to room temperature.

RNase Inhibitor Hu is fully active after at least 20 cycles of temperature changes from -20°C to room temperature. Consistent bands demonstrate that RNase Inhibitor Hu does not lose activity during repeated changes experienced in everyday use.

Cycles 0 1 2 3 4 5 6 7 8 9 10 C- C+



RNase Inhibitor Hu remains fully active after 10 cycles of freezing on dry ice -78°C and thawing at room temperature.

Bands remain consistent throughout repeated temperature cycling.

High robustness for frequent aliquoting — no activity loss due to additional thaw cycles.



RNase Inhibitor Hu – consistently efficient RNA protection

Overview

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Stability at 37°C

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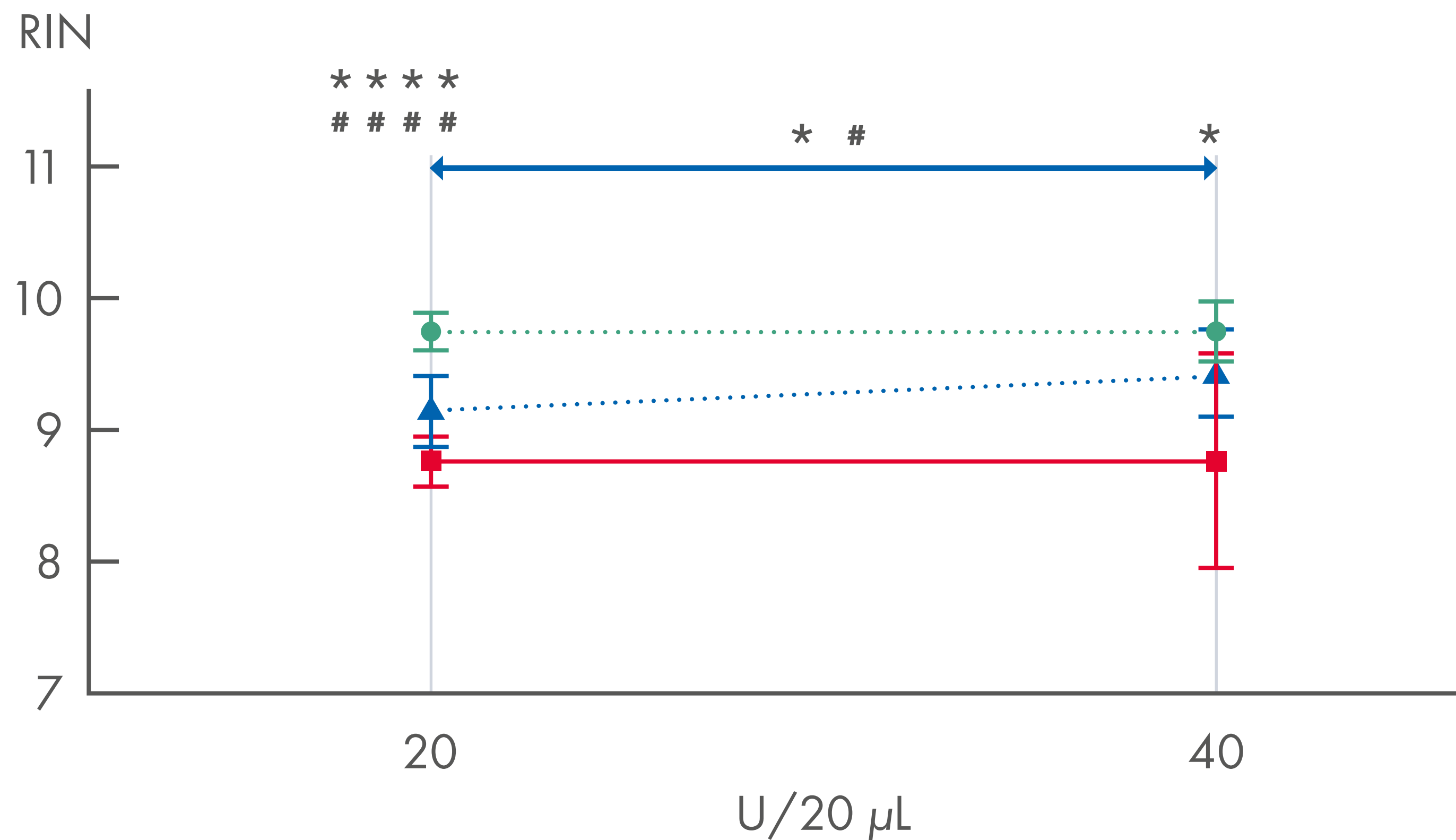
Freeze-thaw cycles

Efficient RNA protection

Lot-to-lot consistency

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●●● RNase Inhibitor Hu ▲●● Supplier X ■●● Supplier Y

Summary of RNA integrity number (RIN) results for three RNase Inhibitors.

Two quantities, 20 and 40 U, of each RNase inhibitor were added per 20 µL reaction. The RIN was determined to establish the RNA protection level. RNase Inhibitor Hu consistently exhibited the highest RIN. Points: mean, whiskers – SD. *, # – determination for statistically significant differences between RNase Inhibitor Hu and RNase inhibitors from Suppliers X and Y, respectively.

*, #: p < 0.05; ****, ####: p < 0.0001: Student's t-test.

RNase Inhibitor Hu outperforms alternative supplier products, consistently achieving high RNA integrity.



RNase Inhibitor Hu exhibits exceptional lot-to-lot consistency

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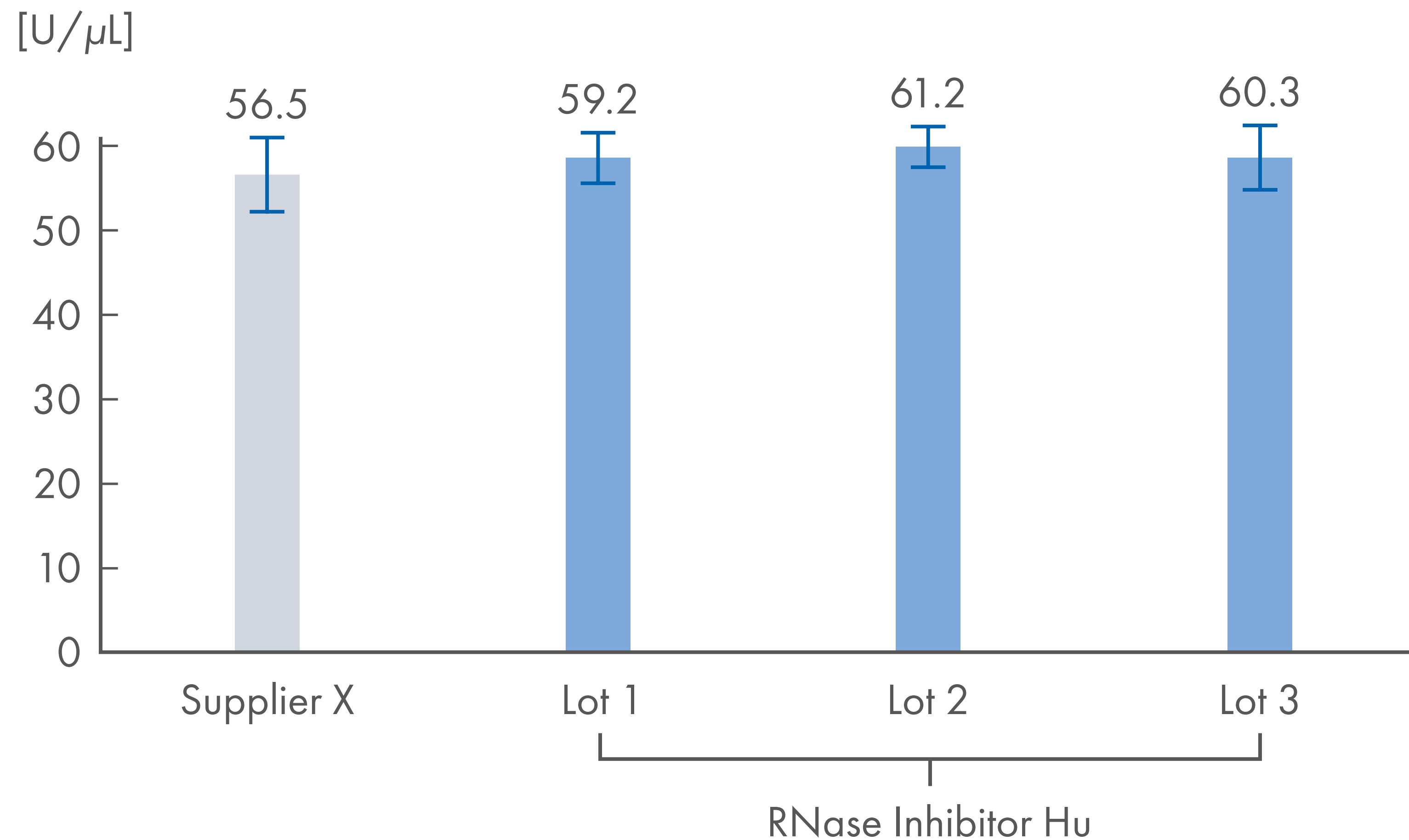
Efficient RNA protection

Lot-to-lot consistency

pH stability

Ordering and Contact

RNase Inhibitor Hu concentration was determined for 3 different production lots and compared to one lot from an alternative supplier



RNase inhibitor Hu is consistent across different production lots.



RNase Inhibitor Hu stays active over a broad pH range

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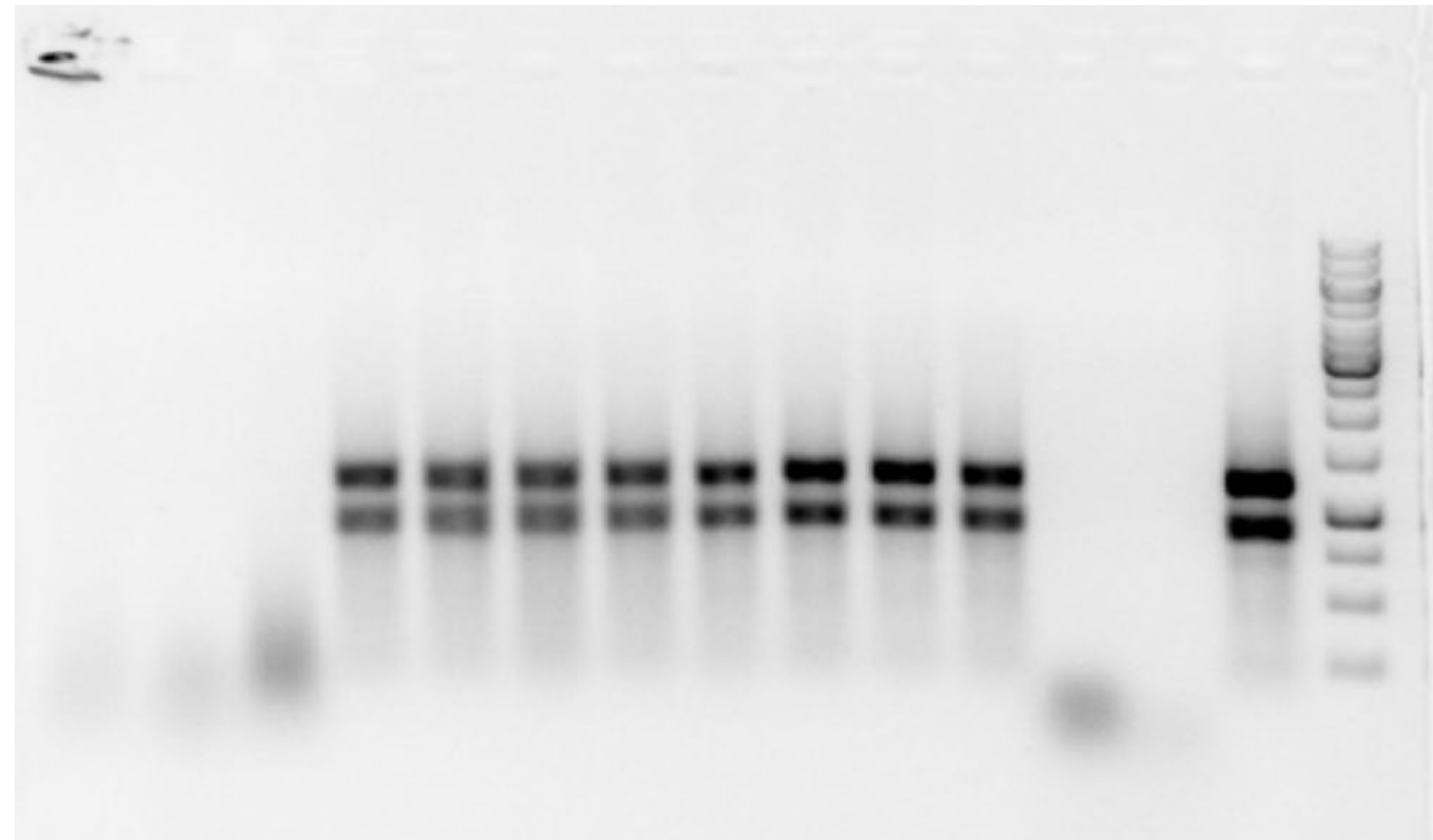
Lot-to-lot consistency

pH stability

Ordering and Contact

pH 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0 C+ M

Intact RNA →



RNase Inhibitor Hu works in a wide pH range, from 5.5 to 9.0.

Results are shown in 1% agarose gel. The RNA was incubated with RNase Inhibitor Hu in buffers with varying pH values. Unaffected RNA should be presented as two clear bands.

RNase Inhibitor Hu retains its activity and RNA protection consistently over a pH range from 5.5 to 9.0.



Ordering information

Overview

Product

RNase Inhibitor Hu (2500 U)

RNase Inhibitor Hu (10000 U)

Applications

RNase Inhibitor Hu (20000 U)

RNase Inhibitor Hu (40000 U)

Stability at 37°C

RNase Inhibitor Hu (400000 U)

RNase Inhibitor Hu (1600000 U)

Stability at 50°C

Stability at 60°C

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Cat. no.

RT35-025

RT35-100

RT35-200

RT35-40kU

RT35-400kU

RT35-1600kU

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- Portfolio breadth



Nucleic acid purification



Enzymes



Oligonucleotides



Master mixes

Ordering and Contact

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