Placental Ribonuclease Inhibitor

(recombinant protein)

Cat. No.	size
E4215-01	2 000 u
E4215-02	10 000 u

Unit Definition:

One unit is defined as the amount of RNase Inhibitor, Human Placenta required to inhibit the activity of 5ng of RNase A by 50%. Activity is measured by the inhibition of hydrolysis of cytidine 2', 3'-cyclic monophosphate by RNase A.

Concentration:

40 U/µl

Storage Conditions:

Store at -20°C.

References:

1. *Blackburn, P. and Moore, S. (1982) Pancreatic Ribonucleases, In: The Enzymes, Vol XV, Part B Academic Press, N.Y.*
2. *Blackburn, P., Wilson, G. and Moore, S. (1977) J. Biol. Chem. 252, 5904.*

Description:

- RNase Inhibitor, Human Placenta is a pure recombinant 50 kDa enzyme expressed in *E. coli*.
- Placental ribonuclease inhibitor inhibits RNase by binding it in a 1:1 ratio with an association constant greater than 10^{14}(2).
- Protein specifically inhibits ribonucleases (RNases) A, B and C (1).
- It is not effective against RNase 1, RNase T1, S1 nuclease, RNase H or RNase from *Aspergillus*.
- It is widely used to prevent RNA degradation in many applications for example:
  - RT-PCR,
  - *In vitro* RNA synthesis,
  - RNA labeling reactions.
- It is active over a broad pH range (pH 5-8).

Example RT PCR Reaction:

1. RNA mix (pipet on ice):

Component:	Amount:
total RNA	10 ng-2 µg
dNTP's mix (5 mM each)	4 µl
Reverse Primer (10 µM)	1 µl
RNase-free Water (EURx Cat. No. E0210)	to 14 µl

2. Add 6 µl of following RT-mix:

Component:	Amount:
5 x RT Buffer	4 µl
Placental RNase Inhibitor 40 U/µl	1 µl
100 mM DTT	1 µl
AMV Native Reverse Transcriptase (EURx Cat. No. E1372)	0.5 µl

3. Perform the reaction for 30-60 min at 50°C. Take 0.5-2 µl of RT reaction as a template for standard PCR with 20-40 cycles.

Notes:

It is recommended to add RNase Inhibitor before other reaction components due to RNase contamination. Suggested concentration of RNase inhibitor in a reaction is 1 U/µl.

Storage Buffer:

20 mM HEPES-KOH (pH 7.6), 50 mM KCl, 8 mM DTT and 50% glycerol.

Quality Control:

All preparations are assayed for contaminating endonuclease, exonuclease, non-specific single- and double-stranded DNase and RNase activities. Typical preparations are greater than 95% pure, as judged by SDS polyacrylamide gel electrophoresis.

EURx Ltd. 80-297 Gdańsk Poland ul. Przyrodników 3, NIP 957-07-05-191, KRS 0000202039
www.eurx.com.pl, orders@eurx.com.pl, *tel.* +48 58 524 06 97, *fax* +48 58 341 74 23