

RNase Inhibitor

产品编号	产品名称	包装
R0102-2kU	RNase Inhibitor	2000U
R0102-10kU	RNase Inhibitor	10000U
R0102-50kU	RNase Inhibitor	50000U

产品简介:

- RNase Inhibitor (Ribonuclease Inhibitor), 即RNases抑制剂, 是一种大肠杆菌重组表达的人胎盘核糖核酸酶抑制剂(human placental RNase inhibitor), 可以通过非竞争性方式按1:1比例和RNase A、RNase B、RNase C和人胎盘核糖核酸酶(human placental RNase)结合, 并抑制这些酶的活性, 从而保护RNA不被这些酶降解。
- RNase Inhibitor对RNase A、RNase B、RNase C和人胎盘核糖核酸酶的抑制能力极强, 其 K_i 值低至约为 $4 \times 10^{-14}M$ 。通常抗体和抗原的亲合常数仅为 10^6-10^9M 。并且RNase Inhibitor和这些RNA酶的结合是非常快速的, 几乎在加入的瞬间就会和这些RNA酶形成复合物从而抑制其酶活性。
- RNase Inhibitor不能抑制RNase I、T1、T2、H、U1、U2、CL3、RNase from *Aspergillus*、S1 Nuclease、Taq DNA polymerase、M-MLV reverse transcriptase和SP6、T7、T3 RNA polymerase的的酶活性。
- RNase Inhibitor在pH 5-8范围内保持其RNA酶抑制活性, 在pH 7-8时抑制活性最高。RNase Inhibitor维持其活力需要至少在溶液中含有1mM DTT。
- 本产品与Thermo公司的RiboLock RNase Inhibitor以及Promega公司的RNasin Ribonuclease Inhibitor属于同类产品, 都是重组表达的人胎盘核糖核酸酶抑制剂, 对于RNase的抑制效果也完全相同(参考图1和图2)。

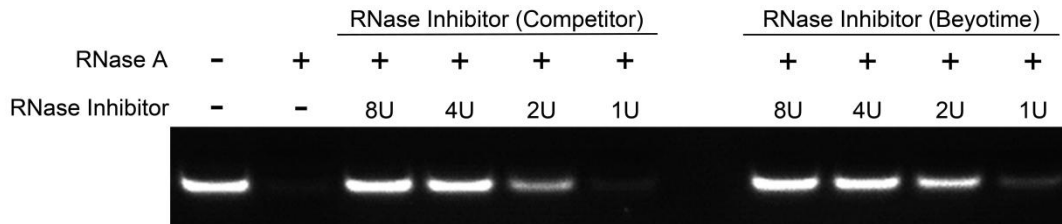


图1. 碧云天的RNase Inhibitor和同类产品(Competitor RNase Inhibitor)对RNase A酶活性的抑制效果比较。5 μ g yeast RNA与0或2ng RNase A及8、4、2、1或0U RNase Inhibitor, 在100 μ l的反应体系(50mM MOPS, 5mM MgCl₂, pH6.5)中, 37 $^{\circ}$ C孵育15分钟。反应完毕后立即取20 μ l反应液用1%琼脂糖凝胶进行电泳分析。

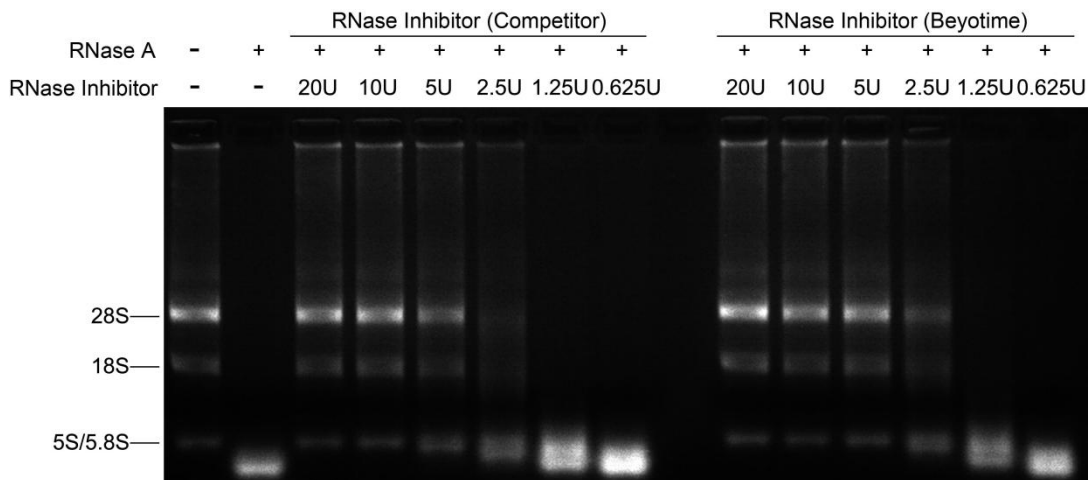


图2. 碧云天的RNase Inhibitor和同类产品(Competitor RNase Inhibitor)对RNase A的酶活性的抑制效果比较。2 μ g HeLa细胞总RNA与0或0.5ng RNase A及20、10、5、2.5、1.25、0.625或0U RNase Inhibitor, 在20 μ l的反应体系(50mM MOPS, 5mM MgCl₂, pH6.5)中, 37 $^{\circ}$ C孵育15分钟。反应完毕后立即全部用1%琼脂糖凝胶进行电泳分析。

- **用途:** 用于cDNA合成, 体外转录, 体外翻译, 以及mRNA-protein复合物分离纯化等过程中保护RNA不被降解; 还可用于特定RNase活性的鉴定等。

- **来源:** 由大肠杆菌表达, 表达基因的来源为human placenta中编码该酶的基因。
- **分子量:** 约49.6 kDa(单体)。
- **活性定义:** 将能够抑制5ng RNase A的50%活性的酶量定义为一个活性单位。
- **活性检测条件:** 100mM Tris-HCl (pH7.5), 1.2mM EDTA, 0.1mg/ml BSA, 100ng/ml RNase A, 0.1mg/ml *E.coli* [3H]-RNA, 50mg/ml yeast RNA, 8mM DTT。
- **纯度:** 不含DNA内切酶和外切酶, 不含RNA酶。
- **储存溶液:** 20mM HEPES-KOH (pH7.5), 50mM KCl, 5mM DTT, 50% (v/v) glycerol。
- **失活或抑制:** 75°C加热10分钟可以导致完全失活。70°C加热10分钟仍会有微量活性残留。SDS和尿素等导致蛋白变性的试剂以及对氯汞基苯甲酸盐(p-chloromercuribenzoate)、重铬酸钾等氧化剂会抑制RNase Inhibitor与RNA酶的结合。
- 关于碧云天RNase Inhibitor的比较和选择, 请参考碧云天的相关网页:
<https://www.beyotime.com/support/rnase-inhibitor.htm>。

包装清单:

产品编号	产品名称	包装
R0102-2kU	RNase Inhibitor (40U/μl)	2000U
R0102-10kU	RNase Inhibitor (40U/μl)	10000U
R0102-50kU	RNase Inhibitor (40U/μl)	50000U
—	说明书	1 份

保存条件:

-20°C保存。

注意事项:

- 使用时宜存放在冰盒内或冰浴上, 使用完毕后宜立即放置于-20°C保存。
- 酶储存溶液中加入DTT可保证RNase Inhibitor长期贮存稳定性。
- 本产品仅限于专业人员的科学研究用, 不得用于临床诊断或治疗, 不得用于食品或药品, 不得存放于普通住宅内。
- 为了您的安全和健康, 请穿实验服并戴一次性手套操作。

使用说明:

1. 对于cDNA合成、体外转录、体外翻译等常见的反应体系中, 为保护其中的RNA不被RNase降解, RNase Inhibitor推荐用量为最终浓度1-2U/μl。

使用本产品的文献:

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