High Loading Purification of a Ribonuclease A Protein

using a manual purification system

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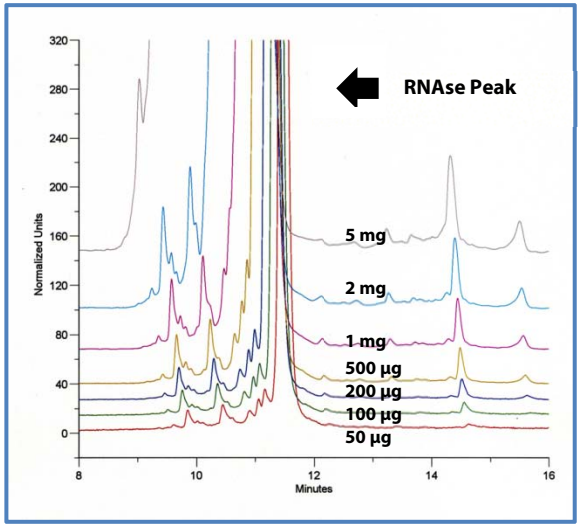

Figure 1 : Bovine Pancrease 50 µg to 5 mg column load

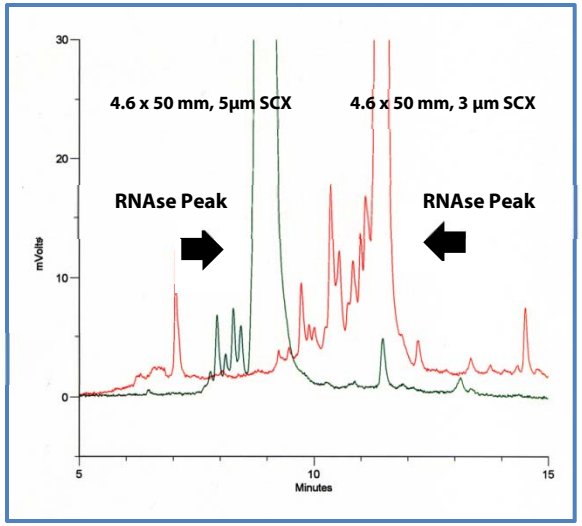

Figure 2 : Bovine Pancrease 60 µg column load

Conditions

Sample: Bovine pancreas

Load:

- 50 µg to 5 mg ; 100 µL
- 60 µg ; 100 µL

HPLC columns:

- Figure 1 :
  - 4.6 x 50 mm, 3 µm SCX
- Figure 2 :
  - 4.6 x 50 mm, 3 µm SCX
  - 4.6 x 50 mm, 5 µm SCX

Mobile phase:

- A : 10 mM PBS, pH 6.0
- B : 1.0 M NaCl
- Gradient :
  - 0 - 1.0 M NaCL over 20 min
  - Flow rate : 1.0 mL/min

High loading purification that results in high-resolution separation is often the goal for scientists performing purification. This protein purification utilized ion exchange for isolating the biological molecule, RNAse, while at the same time, removing impurities present in the sample with UV detection at 214 nm for fraction collection (see Figures 1 and 2). Results show that a simple manual purification system can enable quick selection of a variety of purification columns to allow for high loading with optimal separation.

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Reference : C. Luo, M. Kawakatsu, Y. Hayashi, S. Huang. (2008). Development of High-Capacity Nonporous Ion Exchange Resins for the High Efficiency Separation of Biological Molecules. **American Laboratory**.

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