Boronate Resin

For the Isolation of Ribonucleotide & Oligonucleotide RNA

(Cat. # 786-313, 786-314, 786-315, 786-317, 786-823)

INTRODUCTION

Our Boronate Resin is designed for the isolation of ribonucleotide and oligonucleotide RNA.The resin consists of boronic acid covalently linked to a polyacrylamide support that offers simple isolation of small molecular weight compounds that have cis-diol groups.

The immobilized boronic acid interacts with the cis-diol groups, found in the sugar portion of nucleotides, forming a reversible five member ring complex. Impurities are washed away and then the complex dissociated by low pH or presence of sorbitol.

The polyacrylamide support excludes >6,000 Da molecules from entering the resin bed and therefore is suitable only for small molecules.

ITEM(S) SUPPLIED

Cat. #	Description	Size
786-823	Boronate Resin (Suspension)*	2ml resin
786-313	Boronate Resin (Suspension)*	10ml resin
786-314	Boronate Resin (Dry Powder)	5g
786-315	Boronate Resin (Dry Powder)	50g
786-317	Boronate Resin (Dry Powder)	100g

*Supplied as a 50% aqueous slurry with 20% ethanol

STORAGE CONDITIONS

Shipped at ambient temperature. Upon arrival, store at 4°C.

ADDITIONAL ITEMS REQUIRED

- Empty columns
- Binding Buffer (0.2M ammonium acetate, pH 8.8)
  NOTE: *Buffers such as Tris should be avoided as they can adversely affect binding capacity. The presence of* Mg^{2+} *may enhance binding. In general, use pH > 7.5 for effective binding.*
- Elution Buffer (0.1M Formate, 25mM HCl or 0.2M sorbitol)
  NOTE: *Elution should be performed at pH < 6.5 and boric acid, sorbitol, or mannitol can also be used for elution.*

SPECIFICATIONS

- >1.2meq/g boronate load capacity
- >130µmol sorbitol/ml gel binding capacity
- 6,000Da exclusion limit
- 45-90µm wet bead size

PROTOCOL

1. The Boronate Resin (Dry Powder) must be hydrated in an appropriate buffer. Buffer choice is dependent upon application.
2. Add an appropriate amount of resin to a column.
3. Wash and equilibrate the resin with 5 column volumes (CV) of Binding Buffer.
4. Adjust sample pH to 8.5-9.0 and dilute 1:1 with Binding Buffer.
   NOTE: *We recommend our Tube-O-Dialyzer™ or SpinOUT™ for buffer exchange*
5. Apply the sample to the column and allow to pass through. Collect the flow through for analysis.
6. Wash the column with 5 CV of Binding Buffer. Collect the flow through for analysis.
7. Elute the bond material with preferred Elution Buffer. Collect small fractions as they elute from the column. Identify molecule of interest and combine relevant fractions.
8. Regenerate the column by washing with 5 CV of Elution Buffer.

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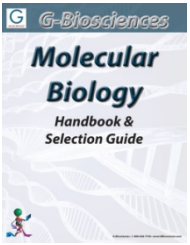

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