



Column Chromatography

Demonstration of separation technology

Travel to the following web sites for excellent animations of column chromatography.ⁱ

Gel Filtration Column Chromatography: separation based on size of molecules

[http://www.chromatography.amershambiosciences.com/aptrix/upp00919.nsf/4a0f132842ea4d354a25685d0011fa04/50c849d0d5b16ba0c1256e92003e865b/\\$FILE/GE_Gel%20Filtration.swf](http://www.chromatography.amershambiosciences.com/aptrix/upp00919.nsf/4a0f132842ea4d354a25685d0011fa04/50c849d0d5b16ba0c1256e92003e865b/$FILE/GE_Gel%20Filtration.swf)

Ion Exchange Chromatography: separation based on opposite charge

[http://www.chromatography.amershambiosciences.com/aptrix/upp00919.nsf/4a0f132842ea4d354a25685d0011fa04/4a555d526b88731ac1256e92003e865c/\\$FILE/GE_Ion%20Exchange.swf](http://www.chromatography.amershambiosciences.com/aptrix/upp00919.nsf/4a0f132842ea4d354a25685d0011fa04/4a555d526b88731ac1256e92003e865c/$FILE/GE_Ion%20Exchange.swf)

Affinity Chromatography: separation based on biospecific interactions; often antigen/antibody interaction

[http://www.chromatography.amershambiosciences.com/aptrix/upp00919.nsf/4a0f132842ea4d354a25685d0011fa04/ad018c9e293f99bec1256e92003e865a/\\$FILE/GE_Affinity.swf](http://www.chromatography.amershambiosciences.com/aptrix/upp00919.nsf/4a0f132842ea4d354a25685d0011fa04/ad018c9e293f99bec1256e92003e865a/$FILE/GE_Affinity.swf)

Use the column provided and the instructions for preparation of the column provided by BioRad. We will provide you with a brown-colored mixture of blue dextran and methyl red. Your goal is to separate the blue dextran from the methyl red.

Protocol for preparation of the brown 3 mg/mL solution:

Add 0.3g of blue dextran to 50 mL of water.

Then add 0.3g of methyl red to the mixture.

Bring the volume of the mixture to 100 mL.

ⁱ Web sites and solution idea provided by: Daugherty, Ellyn, Biotechnology Science for the New Millennium: Course Planner Comprehensive Lesson Plans. ISBN 0-7638-2282-5 Paradigm Publishing, Saint Paul, MN. Also see www.biotech.com/