

BIOLOGY Review Handout: Protein Separation Methods

In this activity, you will review protein separation methods. The class will be divided into 2 groups. Group 1 will review polyacrylamide gel electrophoresis (PAGE)-based protein separation, and Group 2 will review liquid chromatography (LC)-based protein separation.

Part 1 (~30min)

In your groups, discuss the different separation methods, how they are similar and/or different to each other, and the advantages/disadvantages of each. **Each student within the group is responsible for learning all the material.**

Part 2 (~15min)

After you've learned the material, you will be paired with a student from the other group (e.g., if you are in Group 1, you will be paired with someone in Group 2). You will teach your partner what you have learned about protein separation (PAGE or LC), and they will likewise teach you. Make sure to ask your partner questions if you don't understand something.

List of Separation Methods to Learn

Protein Separation Methods	
<p style="text-align: center;">Group 1 Polyacrylamide Gel Electrophoresis (PAGE)</p> <ul style="list-style-type: none">• Native PAGE• Blue native PAGE• SDS-PAGE• IEF-PAGE	<p style="text-align: center;">Group 2 Liquid Chromatography (LC)</p> <ul style="list-style-type: none">• Size exclusion (gel filtration) LC• Ion-exchange LC• Reverse phase LC• Affinity chromatography