College of the Canyons: Introduction to Biotechnology

Protein Gel Electrophoresis: Post Lab Write Up

1. Name three reasons why vertical gel rigs give better resolution than agarose gels.

2. Describe how a PAGE gel can be stratified.

3. What is the maximum concentration of agarose gels? PAGE gels? Why is a greater concentration possible in PAGE gels?

4. Why are the gel wells with the Triton 100 Tris/ Glycine buffer placed in the middle of the gel? What does this tell us about the charge on proteins?

5. Often proteins will change their chemistry in the gel box. This is due to the electrophoretic field altering the pH. Show what functional groups are pH sensitive and how the shift in pH can alter a protein's migration pattern (diagram, doodle, etc. ***hint***, look at old pH quiz..). Show two such examples….

6. Revisit the two detergents and cite their specific chemical structure. How does this structure impart the properties that are associated with either Triton Gels or SDS gels. A diagram and/or doodle may be very useful.

7. When loading a sample into the vertical gel rig, why must you be careful to prevent the plates from separating?

8. With a gel of protein diversity, how can you determine what different varieties of fish the fake Krab is made of? Name (do not describe if gory detail) three pieces of information the gels provide

9. Assume that the fake " Krab" is made from a processed fish. This processing often involves cooking the fish. What effects should this have on the fish? After learning what fish is the basis of fake Krab (ask the instructor) revisit the gel information and see if this makes sense. What fish is the basis of fake Krab?
Does the PAGE gel support this?

The Triton gels?