

Cornell Guided Notes

Genetics of Disease (Medical Interventions) | 2026-09-21

Name

Period

Date

Lesson

Lesson focus

Controls and wet-lab plan

Key words and questions

Prepared details and student notes

Essential question
What is today's target?

Explain why positive and negative controls are essential and finalize your plan for the wet ELISA. Big idea: How do controls prove that a positive result is real and a negative result is not just a failed experiment?

My notes, examples, and questions

Key words
What vocabulary unlocks the lesson?

- positive control
- negative control
- specificity
- sensitivity
- primary antibody
- secondary antibody

My notes, examples, and questions

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Cornell Notes - Continued

Key words and questions

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Must-know ideas
What should I understand by the end?

- A positive control contains the target antigen; it must produce a color signal or the test reagents are not working.
- A negative control contains no antigen; if it turns color, there is contamination or a reagent error.
- Controls must be run every time, in every experiment; a result without controls cannot be trusted.

My notes, examples, and questions

Process notes
What happens during class?

- 0-10 min: Define positive and negative control in notebook; give a real example of each for an ELISA
- 10-25 min: Explain what a positive negative-control result means: write the contamination or reagent scenario
- 25-45 min: Read the wet ELISA procedure; number each step in order in your notebook
- 45-58 min: Draw the plate layout; mark where positive and negative controls go; label all wells
- 58-70 min: List safety steps and gear required for tomorrow's lab; check against the procedure
- 70-80 min: Write predicted colors for positive and negative controls; compare predictions with a partner

My notes, examples, and questions

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Cornell Notes - Continued

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Steps and evidence What do I do and turn in?

- Define a positive control and a negative control in your own words.
- Explain what a result would mean if the negative control turned positive.
- Read the ELISA wet-lab procedure and number the steps in order.
- Mark where the positive and negative controls go in your plate layout.
- List the safety steps and gear you need for tomorrow's wet lab.
- Predict the expected colors for your positive and negative controls.

Evidence: Pre-lab - Numbered wet ELISA procedure, labeled plate layout with positive and negative controls marked, and predicted control colors.

My notes, examples, and questions

Checks for understanding How do I know I got it?

- You will be able to explain the purpose of positive and negative controls.
- You will be able to lay out an ELISA plate with controls.
- You will be able to state the expected control results.

My notes, examples, and questions

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Cornell Notes - Continued

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Lab or safety notes
What must I handle carefully?

Supplies:

- Pre-coated ELISA microplate
- Primary antibody solution
- Secondary antibody solution
- Substrate solution
- Wash buffer and squirt bottle
- Micropipettes and tips
- Positive and negative control samples

My notes, examples, and questions

Summary

Today's lesson focused on Controls and wet-lab plan. The main target was: Explain why positive and negative controls are essential and finalize your plan for the wet ELISA. The evidence of learning is Pre-lab: Numbered wet ELISA procedure, labeled plate layout with positive and negative controls marked, and predicted control colors.. In my own words, the most important idea from today is:

My summary

My final question or connection