Cornell Guided Notes

Genetics of Disease (Medical Interventions) | 2027-02-17

Name	Period	Date	Lesson
		2027-02-17	

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	Prepared details and student notes
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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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