

Cornell Guided Notes

Genetics of Disease (Medical Interventions) | 2026-12-02

Name

Period

Date

Lesson

Lesson focus

GFP and chromatography

Key words and questions

Prepared details and student notes

Essential question
What is today's target?

Explain how GFP and chromatography let you track and separate a target protein. Big idea: GFP is a visual reporter that makes an invisible protein visible; chromatography exploits binding affinity to isolate it.

My notes, examples, and questions

Key words
What vocabulary unlocks the lesson?

- GFP
- chromatography
- elution
- protein marker
- purity
- QC

My notes, examples, and questions

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Cornell Notes - Continued

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

- GFP fused to the target protein fluoresces green under UV light, revealing which fraction contains the protein.
- Affinity chromatography uses a resin that binds the target specifically, letting other proteins wash through.
- Elution uses a competing molecule or change in buffer conditions to release the bound target protein.

My notes, examples, and questions

Process notes
What happens during class?

- 0-10: Read chromatography notes; define chromatography and elution
- 10-25: Explain GFP reporter mechanism; annotate UV signal
- 25-45: Diagram protein binding to column resin and wash steps
- 45-58: Add elution step to diagram; label target fraction
- 58-70: Predict which numbered fraction glows; write prediction
- 70-80: Submit labeled diagram to tracker; confirm lab readiness

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?

- Read the chromatography notes in the PLTW course shell and define chromatography and elution.
- Explain why GFP glowing under UV light marks where the target protein is.
- Diagram a protein binding to a column and then eluting in a chosen fraction.
- Predict which fraction should glow if purification worked.
- Submit a labeled chromatography diagram as PLTW tracker evidence.

Evidence: Notebook check - Labeled chromatography diagram showing protein binding, wash, elution, fraction collection, and GFP signal prediction.

My notes, examples, and questions

Checks for understanding How do I know I got it?

- You'll be able to explain how GFP marks the target protein.
- You'll be able to describe how chromatography separates and elutes proteins.

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:

- Chromatography column and buffers
- GFP-containing protein sample
- Collection tubes for elution fractions
- SDS-PAGE gel and protein marker ladder
- UV light source for GFP detection
- Micropipette and tips
- Safety goggles and nitrile gloves

My notes, examples, and questions

Summary

Today's lesson focused on GFP and chromatography. The main target was: Explain how GFP and chromatography let you track and separate a target protein. The evidence of learning is Notebook check: Labeled chromatography diagram showing protein binding, wash, elution, fraction collection, and GFP signal prediction.. In my own words, the most important idea from today is:

My summary

My final question or connection