

Required response record

MI / Genetics of Disease - September 21, 2026

Your Dilution and ELISA model report

Parts 1 to 3 in one report: your checked September 17 dilution record, your checked September 18 ELISA model record and one new consolidation page

Today is a submission and consolidation day. No solution, plate, reagent or equipment is used, and the report says so. The finished report never claims a solution, an assay, an observation, a measurement or a diagnosis.

The accepted contract adds no assigned solution table
(inputs/C-MI17-18-INSTRUCTION-01-r22/BRIEF.md line 21). Monday's Check 1 verifies the chain and units, not printed answers.

Fill in the cover fields: period and code, today's date, the parts-included boxes for Parts 1, 2 and 3, and the route box for paper or one PDF. Use your period and code, not your name.

Period and code

Date

Parts included: 1, 2, 3

Route: paper or one PDF

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Part 1. Your September 17 dilution record

Check your five-row dilution table against Check 1: one given starting row at 1000 units/mL labeled illustrative; four steps after it; each step divides the row above by 10; a calculation and units/mL in every result. Correct any row readably. Tick each Check 1 box you can confirm.

Use the row just above, not 1000 again. Divide by 10, not 9. If a row is wrong, cross it out neatly and write the corrected calculation beside it.

Check 1

- ☐ One given starting row at 1000 units/mL, labeled illustrative
- ☐ Four steps after the stock row, no fifth step
- ☐ Each step uses the row just above it, divided by 10
- ☐ A calculation and units/mL in every result
- ☐ One prediction sentence that uses the printed assumption and does not claim a measured result

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Part 1. Your September 17 dilution record: the same blank record

Starting concentration 1000 units/mL (units per milliliter), illustrative, not measured. 4 1:10 steps after the starting-stock row. Each step uses one part of the preceding sample and nine parts solvent: ten total parts. Resulting concentration = preceding concentration $\div$ 10. Keep units/mL with every result.

Row	Preceding concentration (units/mL)	Calculation	Resulting concentration (units/mL)
Starting stock, given	Not applicable	Given illustrative input	1000 units/mL
Step 1: use starting stock			
Step 2: use Step 1			
Step 3: use Step 2			
Step 4: use Step 3			

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Part 1. One conditional signal prediction

For this classroom model, assume signal increases with concentration within its useful range. Your prediction is conditional on that assumption. It is not a measured result or a rule for every assay format.

Predict the direction of signal change across your four steps under that assumption. Explain how the planned concentration change supports your prediction.

Check your one prediction sentence: it uses the printed assumption, it predicts the direction of signal change across your four steps, and it does not say a test produced that result. Tick the Check 1 box for the prediction.

This lesson does not supply measured standards or require a standard curve. Your report has no graph. Do not add one.

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Part 2. Your September 18 ELISA model record

Check 2

- ☐ Diagram labels antigen, antibody and the antibody's binding site
- ☐ Explanation names selective binding and its connection to a detectable signal
- ☐ Explanation keeps the limit that selective binding does not guarantee an error-free test
- ☐ Four statements, each supported only by its supplied row, ~ kept on Well 4, no observation claimed
- ☐ Comparison names two wells and keeps the printed model relationship explicit
- ☐ Limit names a conclusion the record cannot establish or the reference information it lacks

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Part 2. Your September 18 ELISA model record: the same blank Part A

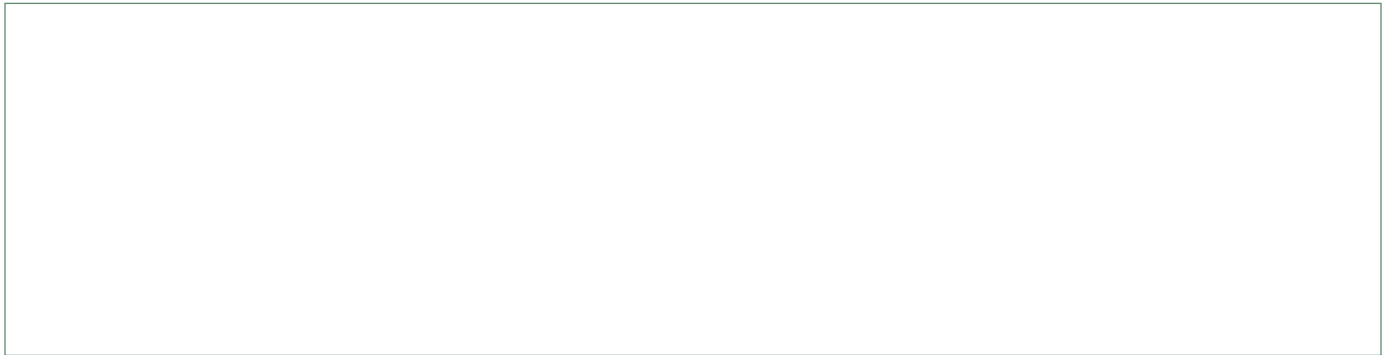
Check Part A: your diagram labels antigen, antibody and the antibody's binding site (binding site on the antibody), and your explanation says binding is selective, connects binding to a detectable signal, and keeps the limit that selective binding does not guarantee an error-free test. Tick the Check 2 boxes for Part A.

Epitope is optional. The binding site belongs to the antibody; the contacted part belongs to the antigen.

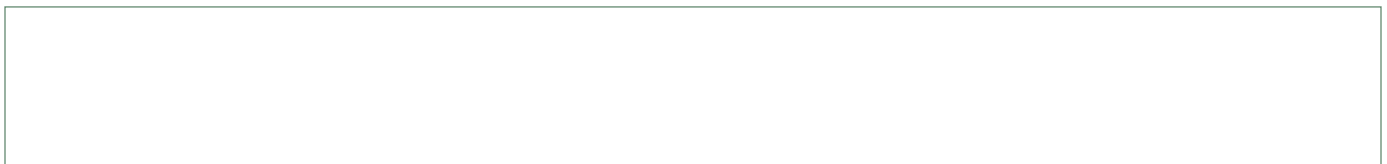
Labels: antigen, antibody, antibody's binding site. The binding site is on the antibody; the contacted part is on the antigen. Optional detail: epitope.

Reference diagram: ANTIBODY [binding site] <--> [contacted part] ANTIGEN

Your diagram:



Your explanation: one or two sentences: selective binding, its connection to a detectable signal in the color-based ELISA concept, and the limit that selective binding does not guarantee an error-free test.



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Part 2. Your September 18 ELISA model record: the same blank Part B

Check Part B: one short statement for each of Well 1 to Well 4, each supported only by that row's supplied color description or concentration label, with the ~ kept on Well 4 and no claim that you observed or measured anything. Tick the Check 2 box for Part B.

A statement such as 'Well 3 is labeled light blue and 1 ng/mL' is supported. 'Well 3 is positive' is not.

Supplied model descriptions and concentration labels, not observations made or concentrations calculated from a measured curve. Do not substitute units/mL for ng/mL.

Well ID	Supplied color description	Supplied concentration label	Your short statement supported by this row
Well 1	Dark blue	100 ng/mL	
Well 2	Medium blue	10 ng/mL	
Well 3	Light blue	1 ng/mL	
Well 4	Nearly clear	~0.1 ng/mL	

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Part 2. Your September 18 ELISA model record: the same blank Part C

For this supplied model, darker blue is associated with a higher assigned concentration. This is the model's stated relationship, not a rule for every ELISA format. Some formats have the opposite relationship between concentration and signal.

Check Part C: your comparison names two wells and says it holds under the printed model relationship; your limit names a conclusion the record cannot establish or one kind of reference information that would be needed. Tick the Check 2 boxes for Part C.

The record supplies no decision rule and no control results. Naming one of those as missing is enough.

Your comparison of two named wells:

These four rows do not establish positive or negative test results. That would require the test's decision rule and known control results. The concentration labels are supplied; you did not calculate them from measured signals or a calibration curve.

Your limit sentence. Do not invent a control result, cutoff or experimental procedure to fill the gap.

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Part 3. Consolidation page

Write three sentences, one for each item in R4: what the dilution values are and are not; what the four well rows are and are not; what a positive or negative call would need that this report does not supply.

Use the words calculated, illustrative, supplied label, decision rule and control results. Do not invent the missing information.

Sentence 1: dilution values

Sentence 2: well rows

Sentence 3: what a call would need

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Part 3. Carry-forward check and the same final check

Write one sentence naming the first thing you would check before trusting a record like this one, and why. Choose from the R5 list or name your own from your two records.

Pick something a stranger could check on the page: the preceding-row chain, the unit on every result, the illustrative label, or the presence of a decision rule and controls.

Before you submit

- ☐ I keep the given starting value labeled illustrative and show a calculation and unit in every step.
- ☐ I report the four supplied wells as labels, not as observations or measurements.
- ☐ I keep the model relationship and my prediction conditional.
- ☐ I state what the report cannot establish and what a real result would need.
- ☐ I submit one complete report once, to the correct assignment.

Complete one Dilution and ELISA model report, Parts 1 to 3. Hand the paper report to Mr. Mendoza before leaving, or submit one PDF to Wk5 Lab report: Dilution and ELISA model submission by the due time shown in Schoology. Use your period and code. Do not submit twice, and do not upload the September 17 or 18 work to its old assignment again. Keep notebook pages in your notebook.

Wk5 Lab report: Dilution and ELISA model submission

<https://clevelandmetro.schoology.com/assignment/8520302777>

Today's portal lesson

<https://mendozabiomed.org/learn/pltw-gend/day/2026-09-21>

Guided notes and a partner check are optional; neither is a submission.