

Required response record

MI / Genetics of Disease - September 18, 2026

Part A: conceptual model and your explanation

One model-analysis record: a labeled binding diagram with a brief explanation, four supplied model rows with your short supported statements, and one conditional comparison plus one interpretation limit.

ANTIBODY [binding site] <--> [contacted part] ANTIGEN

The double arrow marks the contact being illustrated, not an experimental step. The binding site belongs to the antibody; the contacted part belongs to the antigen.

An antibody has a binding site that recognizes a particular part of an antigen. Binding is selective, but an antibody can sometimes bind another antigen. This is called cross-reaction. Specificity does not guarantee an error-free test.

In a color-based ELISA, antibody binding is linked to an enzyme reaction that produces a detectable signal. Today's color words represent a paper model; they are not observations of that chemical reaction.

Using the supplied reference, draw and label antigen, antibody and the antibody's binding site. Keep the binding site on the antibody. The epitope term is optional detail.

You may draw on paper or enlarge the space in your document. Keep all three required labels.

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

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Part B: the four supplied rows

These are supplied model descriptions and concentration labels, not observations you made or concentrations you calculated from a measured curve.

For each of the four well IDs, write one short statement directly supported by that row's supplied color or concentration label. Sentence fragments are acceptable. Do not invent a measurement or a positive/negative result.

The ~ symbol means approximately. Preserve that qualification on Well 4's supplied label.

The unit ng/mL means nanograms per milliliter. Do not substitute yesterday's units/mL. These are separate supplied model labels, not results from Thursday's dilution plan, even where the numbers look similar.

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 C: one comparison and one limit

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.

Name two wells. In one sentence, compare their supplied color descriptions and concentration labels under the stated model relationship. Make clear that you are comparing supplied model labels, not new measurements.

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.

Control: A reference with an expected result, used to check a test.

Decision rule: The stated criterion for interpreting a result, such as when it counts as positive.

Calibration curve: A relationship between known concentrations and measured signals used to estimate concentration within an established range.

Write one sentence naming a conclusion this record cannot establish or one kind of reference information that would be needed to check that conclusion. Do not invent the missing information or propose a laboratory procedure.

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Check and submit the same work once

My Part A diagram labels antigen, antibody and the antibody's binding site; my brief explanation connects selective binding to a signal without promising an error-free test.

My Part B statements report supplied facts for all four well IDs without inventing measurements or assigning positive/negative results.

My Part C comparison names two wells and keeps the stated model relationship explicit.

My Part C limit names missing reference information or an inference this record cannot support.

I submit Parts A-C together once, not the example or guided notes.

Submit one PDF containing Parts A-C of your model-analysis record to Wk4 Data table: Antigen-antibody and ELISA model by September 18 at 11:59 PM. If I collected this work on paper in class, do not upload a second copy. This assignment is 5 points in Daily Work. The example, guided notes and optional reflection are not separate submissions.

Guided notes are optional support. The required reading, reference diagram and four-row record supply what you need. No guided-notes submission is required.

Wk4 Data table: Antigen-antibody and ELISA model

<https://clevelandmetro.schoology.com/assignment/8520302723>

Required reading, reference and record

<https://mendozabiomed.org/learn/pltw-gend/day/2026-09-18>