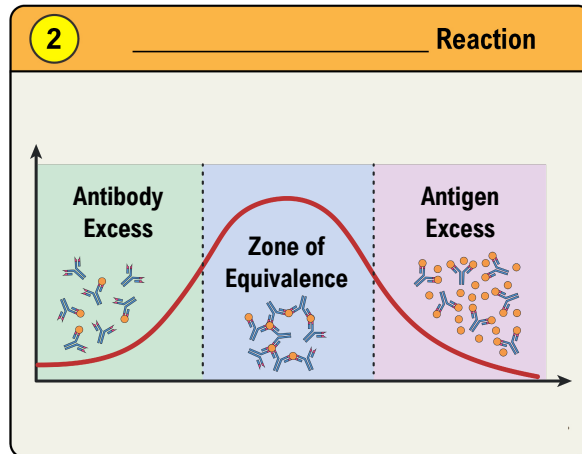
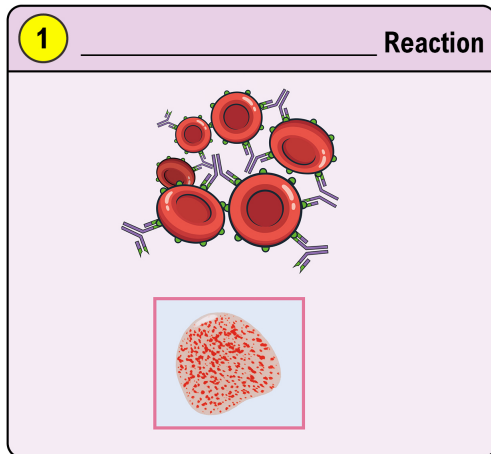


TOPIC: IMMUNOASSAYS DETECTING ANTIGEN-ANTIBODY AGGREGATES

Immunoassays Detecting Antigen-Antibody Aggregates

- 1 Agglutination Reactions:** detect *aggregates* when antibodies link _____, *insoluble particles* (e.g. cells, beads).
- Aggregates: a relatively large, visible _____ formed when antibodies cross-link antigens.
- 2 Precipitation Reactions:** detect *precipitates* when antibodies link _____, *soluble* antigens into a lattice.
- Precipitate: a kind of aggregate that becomes _____ & settles/comes out of a solution.



PRACTICE

The formation of an insoluble antibody-antigen complex is a characteristic of which immunoassay technique?

- a) Western blotting.
- b) Precipitation reactions.
- c) Agglutination reactions.
- d) Solubility reactions.

PRACTICE

What is the major difference between agglutination and precipitation reactions?

- a) The antigen's shape.
- b) The antigen's solubility.
- c) The antibodies themselves operate drastically differently.
- d) The antibody-antigen complex's bonding strength.

TOPIC: IMMUNOASSAYS DETECTING ANTIGEN-ANTIBODY AGGREGATES

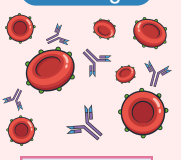
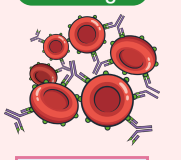
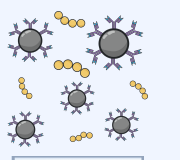
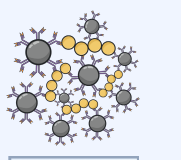




Direct vs. Indirect Agglutination Reactions

◆ **Direct Agglutination Reactions:** antibodies directly cross-link _____ antigens (e.g. RBCs, bacteria).

- Hemagglutination: type of DAR used to detect antigens on RBCs (identifies ABO _____ types).

◆ **Indirect/Passive Agglutination Reactions:** antibodies or antigens adhered to _____ & then cross-linked.

- Used to diagnose various bacterial & viral infections (e.g. streptococci in sore throats).

_____ Agglutination Test		_____ Agglutination Test	
Testing patient's ABO blood type		Patient's Sample with Neg. Control Antibody	Patient's Sample with Anti-Strep Antibody
Anti-A IgG 	Anti-B IgG 		
			
The patient has type _____ Blood.		The patient _____ have strep throat.	

PRACTICE

When carrier particles are coated with an antigen of interest and the carrier particles are not normally found in living things, this type of reaction is called?

- a) Direct agglutination reaction.
- b) Reverse agglutination reaction.
- c) Passive agglutination reaction.
- d) Foreign agglutination reaction.

PRACTICE

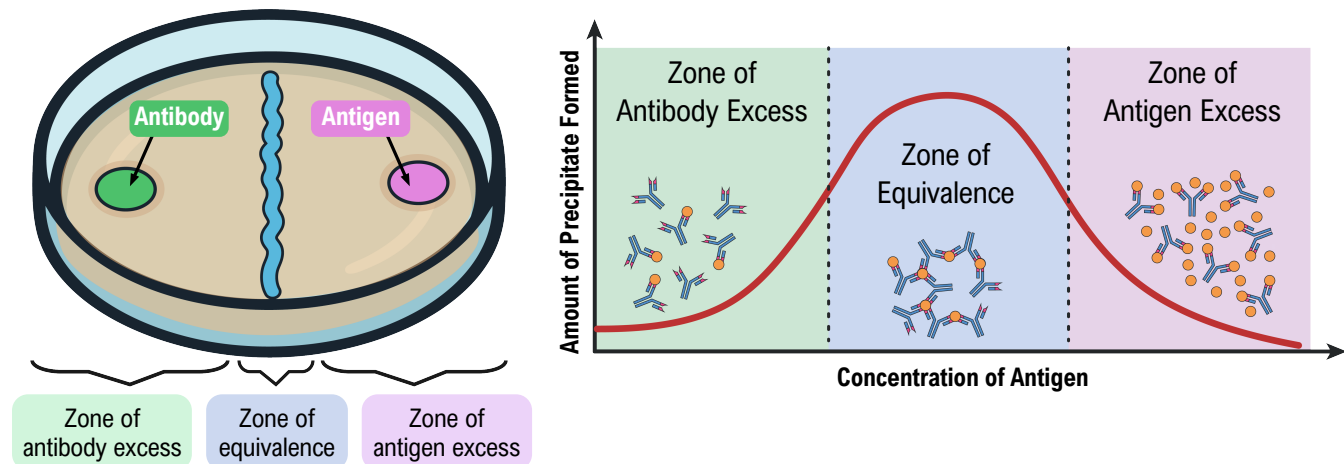
Which of the following statements about hemagglutination is false?

- a) Hemagglutination is a type of passive agglutination reaction.
- b) Hemagglutination can determine which ABO antigens a patient possesses.
- c) Hemagglutination can determine the blood type of the patient.
- d) If blood clumps together, that is a sign of a positive hemagglutination test.

TOPIC: IMMUNOASSAYS DETECTING ANTIGEN-ANTIBODY AGGREGATES

Precipitation Reactions

- ◆ *Recall*: precipitation reactions detect _____ when antibodies cross-link small, *soluble* antigens.
 - *Double Immunodiffusion Test*: antigen & antibody diffuse toward each other & form a visible *precipitin line*.
- ◆ **Zone of Equivalence**: the _____ of antibody-antigen *ratios* that effectively allows precipitates to form.



- ◆ Precipitin line can confirm a correct antibody-antigen match & determine their presence.

EXAMPLE

Match each immunoassay diagnostic technique with the positive result associated with each test.

Antigens and antibodies concentrate and clump together forming a solid in solution.	
Color of specimen is correlated to the concentration of an antigen or antibody of interest in the specimen.	
Cells clump together in response to a particular antibody.	
An antigen or antibody of interest can be detected with a fluorescent microscope.	

- a) ELISA. b) Agglutination Reaction.
c) FA Test. d) Precipitation Reaction.

TOPIC: IMMUNOASSAYS DETECTING ANTIGEN-ANTIBODY AGGREGATES

PRACTICE

In precipitation reactions the antigen is a _____, while in agglutination reactions the antigen is often _____.

- | | |
|----------------------------------|---|
| a) Bacterium; a virus. | c) Nucleic acid molecule; a protein molecule. |
| b) Soluble molecule; cell bound. | d) Cell surface antigen; a cytoplasmic antigen. |

PRACTICE

The region of the precipitation curve that signifies a precipitation reaction is called the:

- | | |
|----------------------|-------------------------|
| a) Zone of Equality. | c) Zone of Equivalence. |
| b) Zone of Excess. | d) Zone of Comparison. |