

[Video recording link](#)

# MODULE 2 L03

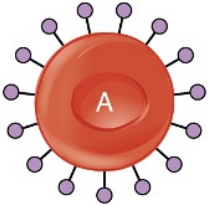
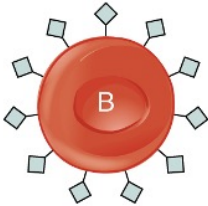
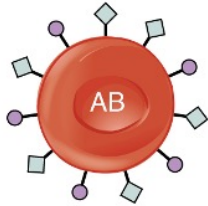
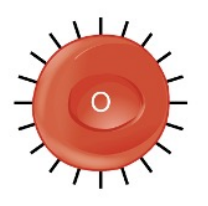



## Blood Type

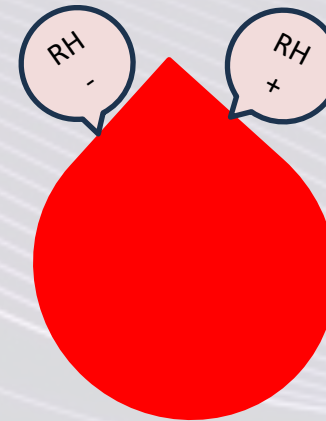
Dr. Lisa Brinn  
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# Blood Types

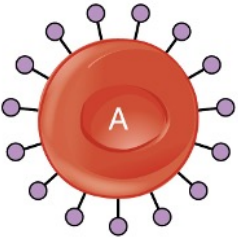
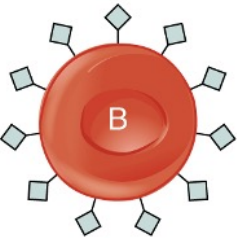
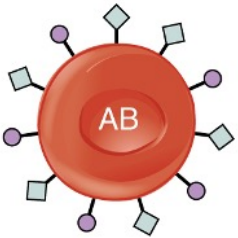
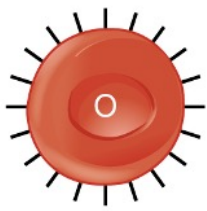






- Determined by surface antigens
  - ❖ Also known as agglutinogens
  - ❖ Are glycoproteins or glycolipids
    - Characteristics are genetically determined
    - 50 different types
      - 3 important ones
        - Antigen A
        - Antigen B
        - Antigen D (Rh)

| Blood Type                 |  |  |   |  |
|----------------------------|--|--|---|--|
|                            | A  | B  | AB  | O  |
| Red Blood Cell Type        |                |                |                       |  |
| Antigens in Red blood Cell | <br>A antigen | <br>B antigen | <br>A and B antigens | None   |

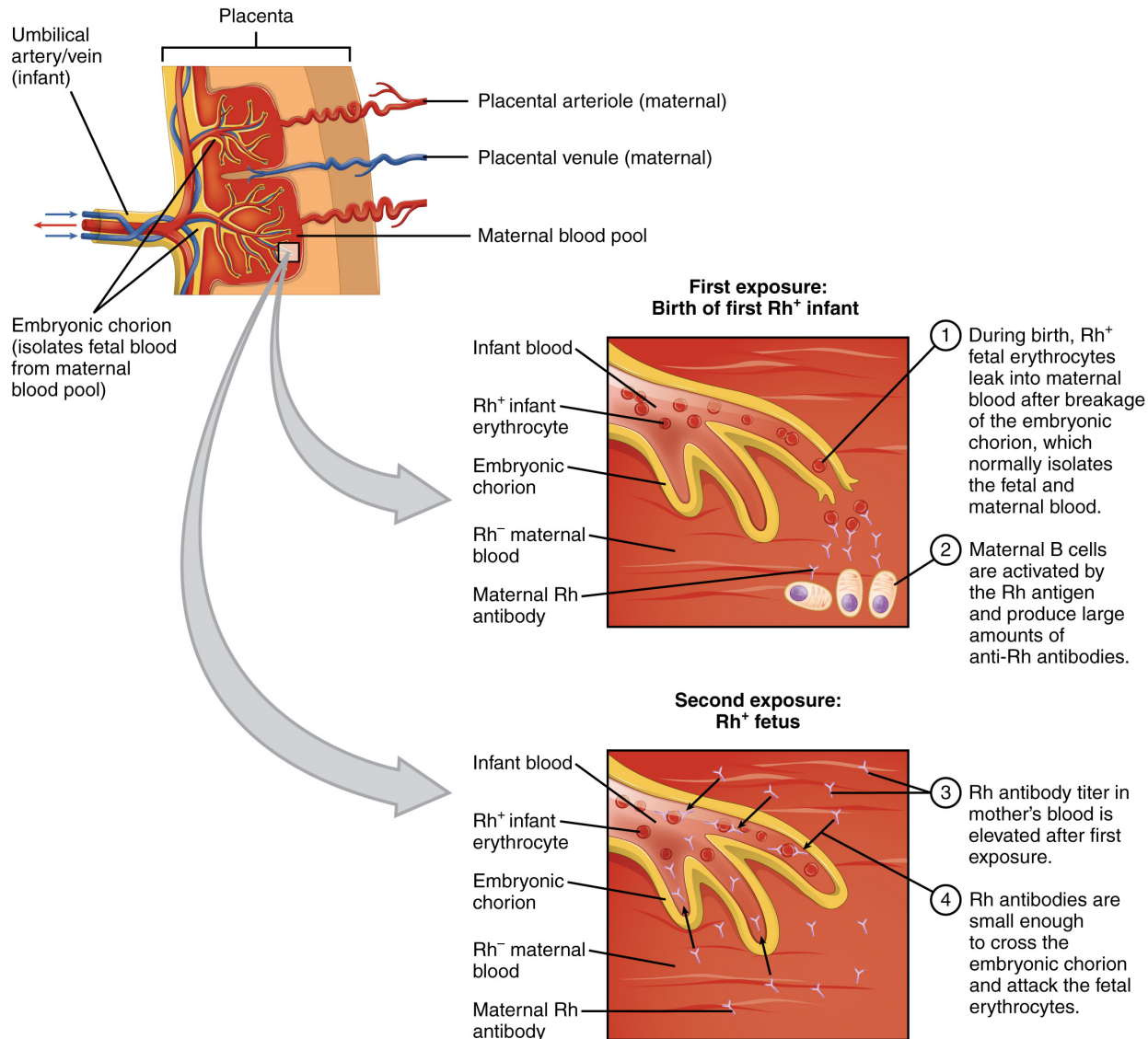


# Antibodies and Cross-Section

Blood Type

|  | A  | B  | AB   | O   |
|--|--|--|--|---|
| Red Blood Cell Type                    |               |               |                      |                        |
| Antigens in Red blood Cell             | <br>A antigen | <br>B antigen | <br>A and B antigens | None  |
| Antibodies in Plasma                   | <br>Anti-B   | <br>Anti-A   | None   | <br>Anti-A and Anti-B |
| Blood Types Compatible in an Emergency | A, O   | B, O   | A, B, AB, O<br>(AB <sup>+</sup> is the universal recipient)  | O<br>(O is the universal donor)   |

# Erythroblastosis Fetalis



- First exposure of an Rh<sup>-</sup> mother to Rh<sup>+</sup> erythrocytes during pregnancy induces sensitization.
- Anti-Rh antibodies begin to circulate in the mother's bloodstream.
- Second exposure occurs with a subsequent pregnancy with an Rh<sup>+</sup> fetus in the uterus.
- Maternal anti-Rh antibodies may cross the placenta and enter the fetal bloodstream
  - causes agglutination and hemolysis of fetal erythrocytes.