

## **Mastery Series: Antibodies**

---

1. Which general type of WBC is a B cell?
2. What do plasma cells produce? Why do you think they get so big?
3. What is the shape of an antibody?
4. What are the two types of “chains” found in antibody?
5. Consider the shape of antibody to include a top part (with the forks of the ‘Y’) and the bottom part (to be the straight part at the bottom of the ‘Y’). What are the two regions, and what is the job of each region?
6. What does immunoglobulin mean?
7. What type of antibody does a B cell usually make when it is exposed to a matching antigen for the first time?
8. Comparing an IgM and an IgG antibody that respond to the SAME antigen: which region would be the same between them, and which region would be different?
9. What is an antibody class switch?
10. Which “class” is usually produced by plasma cells in mucous membranes?
11. Which “class” is usually produced by circulating B cells (after repeated exposures)?
12. What is one theory as to why IgE antibodies are often associated with allergies?

## Mastery Series ANSWERS: Antibodies

---

1. Which general type of WBC is a B cell? **Lymphocyte**
2. What do plasma cells produce? Why do you think they get so big? **Antibodies; they need to be big to translate all those big antibodies!**
3. What is the shape of an antibody? **"Y"**
4. What are the two types of "chains" found in antibody? **Heavy and light**
5. **The forks are the variable region that binds to the matching antigen; and the constant region identifies the "class" of the antibody**
6. What does immunoglobulin mean? **Antibody**
7. What type of antibody does a B cell usually make when it is exposed to a matching antigen for the first time? **IgM**
8. Comparing an IgM and an IgG antibody that respond to the SAME antigen: which region would be the same between them, and which region would be different? **The variable region would be the same, and the constant region would be different.**
9. What is an antibody class switch? **Memory B cells make a different class than IgM when they are activated.**
10. Which "class" is usually produced by plasma cells in mucous membranes? **IgA**
11. Which "class" is usually produced by circulating B cells (after repeated exposures)? **IgG**
12. What is one theory as to why IgE antibodies are often associated with allergies?  
**They are not well-trained to deal with helminths in developed countries, so they respond inappropriately to environmental antigens.**