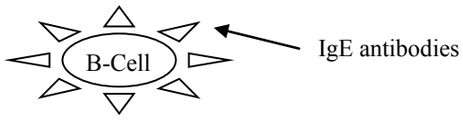
Why do I have allergies?

Your body has labeled certain foreign objects "allergens". When your body comes into contact with allergens, it releases an excess amount of histamines. A histamine is a neurotransmitter that regulates the immune system. In general, the release of histamines is a positive reaction to fighting bacteria. However, in the case of allergies, the body interprets the harmless foreign substances, allergens, as bacterial invaders and releases more histamines than are needed. The excess release of histamines cause the allergy symptoms such as itching, wheezing, and sneezing.

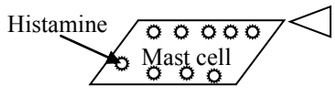
What happened the first time I came in contact with the allergen?

1. B-cells detect the presence of the allergen and misinterpret the allergen as a bacterial invader.

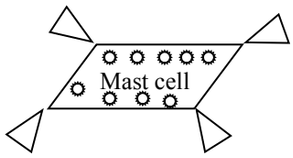
2. B-cell produce IgE antibodies in large amounts. IgE antibodies are protein molecules created to combat allergens.



3. IgE antibodies attach to mast cells.

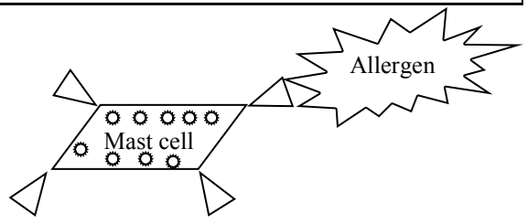


4. Mast cells take 7 to 10 days to prime themselves with IgE antibodies. No allergic reaction occurs at this time.

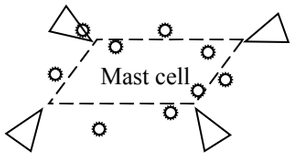


What happens now when I am exposed to the allergen?

1. Allergens bind to the IgE antibodies of the mast cell.



2. IgE antibodies alert the protein within the mast cell to self-destruct because the mast cell has now been "contaminated" by the allergen.

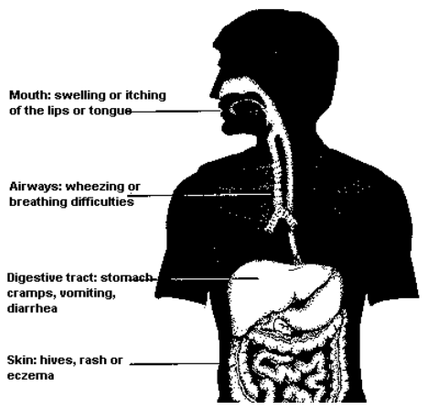


3. "Contaminated" mast cells self-destruct and release large quantities of histamines into the surrounding tissues and blood.

4. Blood vessel surfaces dilate and blood pressure drops due to the release of histamines.

5. The excess release of histamines trigger one or more of the following allergic reactions:
   - A. Itching
   - B. Hives
   - C. Sneezing
   - D. Wheezing
   - E. Nausea
   - F. Diarrhea
   - G. Vomiting

[1]



How can I prevent allergic reactions?

Taking an antihistamine can prevent allergic reactions. An antihistamine blocks the release of histamine. Remember, the excess release of histamines causes allergic reactions. Therefore, inhibiting the release of histamines prevents allergic reactions.

[1]U.S. Food & Drug Administration. "Common sites for allergic reactions" (image). Available from: FDA <http://www.cfsan.fda.gov/~dms/allergy.gif> (accessed 9 March 2009)