

## Forming Immunity TOC #3

- **Homework:** Create a study guide or flash card set of all cell types
  - Due: Tomorrow
  - Must create something for binder (TOC#2)

## Immune System Notes: Specific

### C. Antibody Shape:

- Y- Shaped
- Top of the Y has 2 spots that "Fit" an antigen

(Antibody) (Antigen)

## Immune System Notes: Specific

### D. Antibody Function:

- Grab Antigens and clump up
- Macrophages can come up and eat them pile of antibodies and antigen

(Antibody) (Antigen) (Macrophage)

## Immune System Notes: Specific

### E. Cell-mediated Immunity

- T-Cells identify and attach to the antigens on the macrophage and the T cell divides
- Those new T Cells can become helper T-Cells and then Killer T-Cells
- Killer T-Cells find infected cells displaying antigen and pop them to stop infection

T-Cells → Helper T-Cells → Killer T-Cells

## Immune System Notes: Acquired

### F. Active Immunity

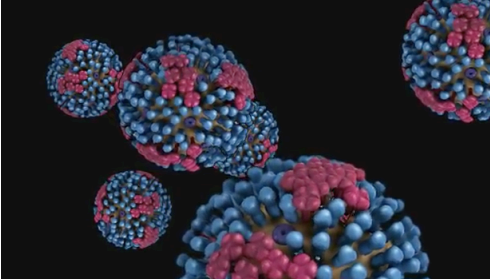
- Immunity after first exposure
- We can prepare our bodies so we have an active immunity if our bodies see the pathogen again.
- **Vaccine:** Injecting a weakened form of the pathogen to "train" your immune system.

## H1N1 Vaccine Production

### B Cells - Specific Memory Cells

- A few b-cells become **memory cells!**
- Vaccination triggers the immune system response, leaving you with memory cells.)

### Flu Vaccine: Keeping Up With The Virus




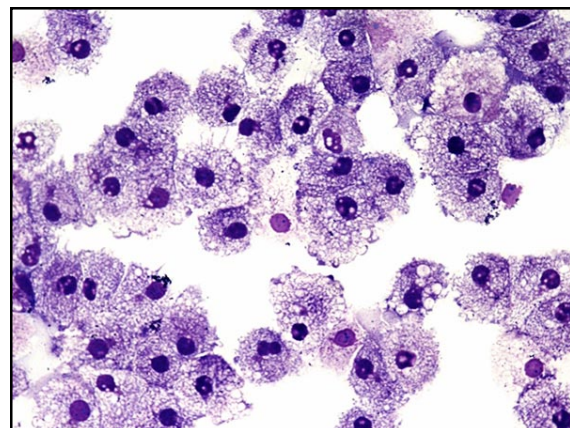
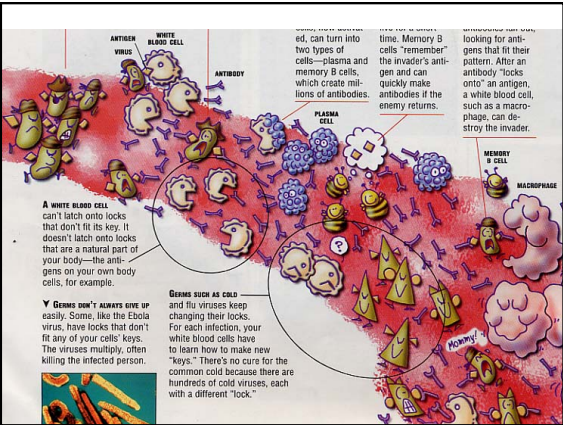
Questions:

1. Why do you need a vaccine every year?
2. What changes about viruses?

### Immune System Notes: Acquired

#### G. Passive Immunity

- Putting antibodies into our bodies
  - Natural: From your mom
  - Unnatural: Injected (ex: rabies vaccine)

**ANTIGEN**  
VIRUS

**WHITE BLOOD CELL**

**ANTIBODY**

**PLASMA CELL**

**MEMORY B CELL**

**MACROPHAGE**

**HOW?**

**A WHITE BLOOD CELL** can't latch onto locks that don't fit its key. It doesn't latch onto locks that are a natural part of your body—the antigens on your own body cells, for example.

**Y GENES DON'T ALWAYS GIVE UP** easily. Some, like the Ebola virus, have locks that don't fit any of your cells' keys. The viruses multiply, often killing the infected person.

**GENES SUCH AS COLD** and flu viruses keep changing their locks. For each infection, your white blood cells have to learn how to make new "keys." There's no cure for the common cold because there are hundreds of cold viruses, each with a different "lock."

### Immune system cartoon or user's manual

#### Due: Thurs/Friday, 2/28 or 3/1

- Include:
  - specific and nonspecific defenses
  - White blood cell
  - B cell
  - T Cell
  - Helper T Cell
  - Antibody
  - Antigen
  - Pathogen
  - Immune response
- At least a complete pencil-drawn layout of the whole cartoon.