

## CONCEPT: PRIMARY & SECONDARY RESPONSE OF ADAPTIVE IMMUNITY

● Memory B & T cells make a *secondary* adaptive immune response *faster* & \_\_\_\_\_ *effective* than a *primary* response:

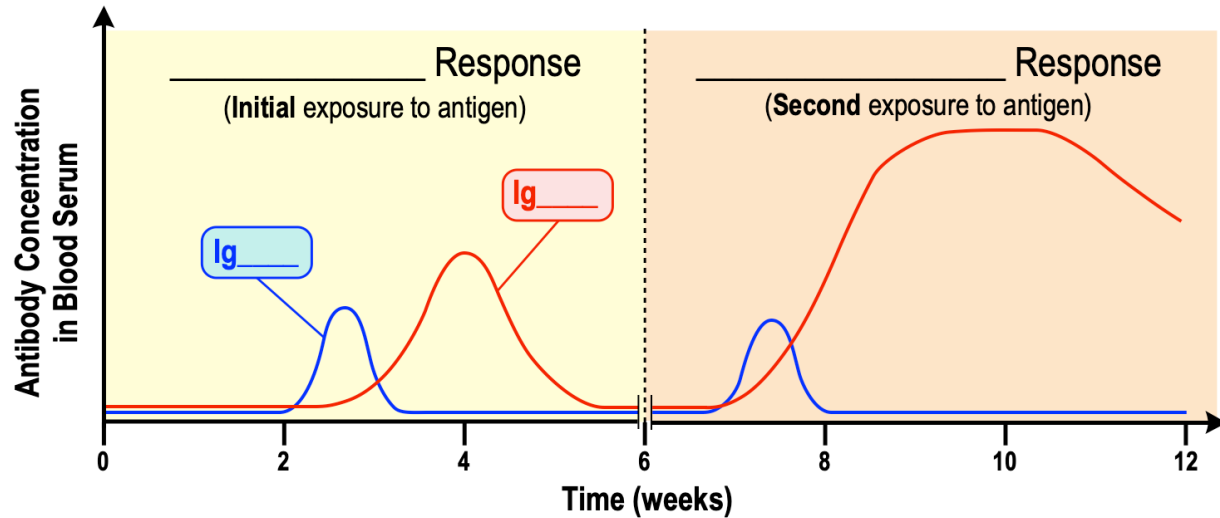
1) **Primary Immune Response:** a *slower* & *weaker* response upon \_\_\_\_\_ exposure to an antigen.

□ Ex. takes \_\_\_\_\_ time to produce a relatively \_\_\_\_\_ number of antibodies (IgM & IgG).

2) **Secondary Immune Response:** a *faster* & *stronger* response upon \_\_\_\_\_ exposure to antigen.

□ Ex. takes \_\_\_\_\_ time to produce a relatively \_\_\_\_\_ number of IgG & only *some* IgM.

□ Associated with \_\_\_\_\_ B & T cells of adaptive immunity.



**PRACTICE:** During an immune response, the latent or lag period is the number of days between the initial infection of the host and antibody production used to fight the infection. Which type of immune response will have the longer latent period?

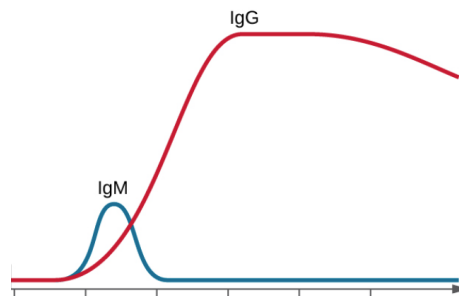
- a) Primary Immune Response.                      b) Secondary Immune Response.

**PRACTICE:** Which antibody class rises to its highest concentration during a secondary response?

- a) IgA.                      b) IgE.                      c) IgM.                      d) IgG.

**PRACTICE:** Does the graph correspond with a primary or secondary infection?

- a) Primary Immune Response.  
b) Secondary Immune Response.



**CONCEPT: PRIMARY & SECONDARY RESPONSE OF ADAPTIVE IMMUNITY**

**PRACTICE:** People that are immune to a certain disease have \_\_\_\_\_ class antibodies against the disease years later.

- a) IgA.
- b) IgG.
- c) IgM.
- d) IgE.

**PRACTICE:** How long after initiation of a primary response do significant amounts of antibody appear in the blood?

- a) One day
- b) 10-14 days
- c) 4 weeks
- d) 6 months

**PRACTICE:** If you draw a blood sample from a patient to determine whether he or she has a herpes simplex infection, and the patient displays a large amount of IgG against the virus but low levels of IgM, what do you conclude?

- a) The patient is newly infected.
- b) The patient has had the infection for a while.
- c) The patient is not infected.
- d) It is impossible to draw conclusions.

**PRACTICE:** Put the following steps in the correct sequence to elicit an antibody response:

- (1) T<sub>H</sub> cell recognizes B cell.
- (2) APC contacts antigen.
- (3) Antigen fragment displayed on surface of APC.
- (4) T<sub>H</sub> recognizes antigen on APC is immunogenic.
- (5) B cell proliferates.

- a) 1, 2, 3, 4, 5.
- b) 5, 4, 3, 2, 1.
- c) 3, 4, 5, 1, 2.
- d) 2, 3, 4, 1, 5.
- e) 4, 5, 3, 1, 2.