

Homework 5

Question 1.

Watch the video: **Vaccines: Separating facts from fear**. (Made by the Children's Hospital of Philadelphia, and posted within the the textbook section of the BIOE301 site). Then do a GOOGLE search on "Are vaccines safe?" Explore several of the links your search provides and compare them with the information discussed in the video and in class. Write a paragraph that evaluates the accuracy of the information that you found in your internet search. Be sure to include references

To help in this comparison, you can also check out the CDC's websites:

[http://www.cdc.gov/vaccines/vac-gen/ABCs/downloads/5-ABCs-Primary.ppt#340,1,ABCs OF CHILDHOOD VACCINES](http://www.cdc.gov/vaccines/vac-gen/ABCs/downloads/5-ABCs-Primary.ppt#340,1,ABCs%20OF%20CHILDHOOD%20VACCINES)

<http://www.cdc.gov/vaccines/vac-gen/6mishome.htm>

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Questions 2-4

2. The Sabin Polio vaccine and the MMR vaccine are live attenuated vaccines. In these vaccines:
- a) The virus is used to sequentially infect multiple animals until it randomly undergoes a mutation that makes it a weaker virus
 - b) The virus is grown in animals or cultured in cells and then treated with chemicals that inactivate it
 - c) The virus is grown in cell culture over many viral generations, and attenuated viral mutants are isolated to use as vaccine strains
 - d) a & b
 - e) a & d
3. A toxoid vaccine will
- a) Generate antibodies that block access of toxin to target cells
 - b) Activate macrophages
 - c) Activate T-cells
 - d) Activate B-cells
 - e) a & d
 - f) All of the above
4. Live attenuated vaccines have worked well against polio, measles, mumps and rubella. Why can't we use a live attenuated vaccine against HIV?
- a) What could happen to people receiving the vaccine?
 - b) What characteristic of the virus makes it dangerous to use for this type of vaccine?
 - c) Name two types of vaccine that would elicit a strong T-cell response, and would be suitable candidates for HIV vaccine

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EXTRA! EXTRA!

The BIOE 301 Tribune is asking you to write a 400-450 word column on the Avian Influenza situation.

Your editor informs you that you must write a critique of Bush's \$7.1 billion plan for the Avian Flu pandemic. Your critique should include the scientific, economic, and public health aspects of this plan. Other topics, including why Avian Influenza viruses pose a threat, the current situation of the threat, the science behind it (antigenic shift vs. antigenic drift) and potential vaccine approaches, may be addressed as well.

Use the reference article and the links on the following page to help gain background information that will aid you in completing this assignment.

REMEMBER this is for a newspaper so make it compelling and make it interesting, but also make it TRUE!

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Question 5. Resources

Reference article on the threat of Avian Influenza

Palese, P. Influenza: Old and new threats . Nature Medicine 2004, 10: S82-S87
(find complete article on BIOE 301 site)

CNN news report on President's Bush 2005 plan for the Avian Flu

<http://www.cnn.com/2005/HEALTH/conditions/11/01/us.flu.plan/>

<http://www.cnn.com/video/#/video/politics/2005/11/01/obrien.leavitt.bird.flu.affl>

Statement by Margaret Chan, Director general of WHO on Pandemic Responses 6/13/2007

http://www.who.int/dg/speeches/2007/20070613_seattle/en/index.html

US Dept. of Health and Human Services: current state of the Flu (Global)

<http://www.pandemicflu.gov/>

Background on how vaccines work

http://www.accessexcellence.org/AE/AEC/CC/vaccines_how_why.html