BIOL 201 - Assignment 1 - Due January 29, 2008

How do viruses get into the nucleus?


You may do this assignment by yourself or in groups of two or three. You may discuss this assignment with anyone you want but when writing this assignment only people listed as authors may be present. Your answers must be in your own words and not paraphrased from the article or from other sources. When writing your answers consider myself to be your audience. Assume that I am familiar with cell biology techniques and information but that I read this paper a year ago and have forgotten the details. Cite any sources used other than the article itself. Your assignment is to be single sided, use a cover page, and not be enclosed within a folder. You are encouraged to use hand drawn diagrams rather than computer drawn ones. This assignment is out of 30 marks and is worth 7.5% of your total course mark.

Question 1 Online tools (2 marks each)

a) Use Google Image Search to get a picture of the Minute Virus of Mice to include in your assignment.
b) Use PubMed to find Dr. Nelly Panté's most recent paper. Include a print out of the first page of this article in your assignment.
c) Use Wikipedia to find out what et al. stands for. Why is there only a period after 'al'? 
d) Journal articles now have two citations: the conventional one seen in the top left corner of this paper and a DOI in the top right corner. Use Wikipedia to find out what a DOI is.

Question 2 In a short paragraph describe the experiment shown in Figure 1. Your answer must be in your own words and not those of the authors. Include in your answer the purpose of this experiment, how was it done, and what these results showed. (5 marks)

Question 3 In a short paragraph describe the experiment shown in Figure 2. Your answer must be in your own words and not those of the authors. Include in your answer the purpose of this experiment, how was it done, and what these results showed. (5 marks)

Question 4 Figures 3c and 3d show damage to the ONM and INM. Why is the damage to the ONM more extensive? (2 marks)

Question 5 The authors mention that there may be an NLS sequence on the VP1 capsid protein. Design an experiment that will reveal whether or not this putative NLS sequence is necessary for nuclear import and an experiment that will reveal whether it is sufficient for nuclear import. You have access to any protein, strain of MVM, reagent, or laboratory equipment you want. Include controls in your experiments and how you would interpret the results. Include labeled diagrams in your answer. (10 marks)
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Your name(s) here