

HOMEWORK #11
DUE April 28, 2008

You have 3 cDNA clones from what you think are the same gene (sequences given below). Analyze these sequences and answer the following questions:

1. Are these 3 clones likely to be of the same gene? Indicate which fragments overlap and their order.
2. Are there any ambiguities in the sequences? If so, how could you resolve these ambiguities?
3. Do the compiled sequences encode for the entire protein? Why or why not?
4. Identify the protein or the class of proteins encoded by this sequence.

>clone_X

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GCAAGGTCTAAAGGCTATATCTAAGAAGGATAAATATGATAAAAATTATGGAAAAAAAAAT
ATCAACATCAGTGGAAAGTTTTGTGTAGAAATGCAAGCTTCGAATTCGTAACATATTTAAA
TTATTGCCGATCATTAAAGATTTGAAGATAGACCCGATTATACATATTTAAGAAGACTTTT
AAAGGACTTGTTTTATAAGAGAGGGATTTACTTATGACTTTTTTATTTGACTGGACATGTGT
ATATGCCTCCGAAAAGGATAAGAAGAAGATGTTAGAAAATAAAAACCGTTTTGATCAAAC
AGCAGATCAAGAAGGAAGAGATCAACGAAATAATTGATATGCCTTATGCAACATTTTTTAG
TTCTTTGATGTAATTCATCTTAACAGGTACCATTATGTATATGCAGCATATAATCAAAA
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>clone_Y

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TCAAATGTTAAATAGAATTGAATATGTGCATTCAAAAAATTTTATACATAGAGATATTAA
ACCAGATAACTTTTTAATAGGACGAGGGAAAAAAGTTACCTTAATACATATTATTGATTT
TGGTTTTAGCAAAAAAATATAGAGATTCAAGATCACATACTCATATTCCATATAAAGAAGG
GAAAAATTTAACAGGAACAGCAAGATATGCAAGTATAAATACACACTTAGGAATTGAACA
ATCTCGTAGGGATGATATTGAAGCCCTTGGATATGTTCTCATGTATTTTTCTAAGAGGAAG
TTTACCATGGCAAGGTCTAAAGGCTATATCTAAGAAGGATAAATATGATAAAAATTATGGA
AAAAAATATCAACATCAGTGGGAAGTTTTGTGTAGAAATGCAAGCTTCGAATTCGTAA
CATATTTAAATTATTGCCGATCATTAAAGATTTGAAGATAGACCCGATTATACATATTTAA
GA
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>clone_Z

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TTGTACCTGTATATGTATTAATACTATATTGCTGCAGATAAAAATTTTATAAATTCAAAATT
TAAAAAATGGAAATTAGAGTGGCAAATAAATATGCTTTAGGAAAAAATTAGGGAGTGGT
TCCTTTGGTGATATATATGTTGCCAAGGATATTGTAACGATGGAAGAATTTGCTGTAAAA
TTAGAATCAACACGATCAAAACATCCCCAACTATTGTATGAGTCAAATTTATATAAAATA
TTAGGAGGAGGAATTGGTGTACCTAAAGTATATTGGTACGGTATAGAAGGGGATTTTACT
ATCATGGTTCTTGATTTATTAGGCCCATCCCTTGAAGATTTATTTACCTTATGTAATAGA
AAATTTTCTTTAAAGACTGTCCTTATGACAGCAGATCAAATGTTAAATAGAATTGAATAT
GTGCATTCAAAAAATTTTATACATAGAGATATTAACCAGATAACTTTTTTAAATAGGACGA
GGGAAAAAAGTTA
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Hints and links to sites that will be helpful in completing this assignment, as well as an electronic version of the sequences in plain text, are available on the homework page (<http://www.tulane.edu/~wiser/methods/homework/HW11.html>). Feel free to include any print outs plus annotations as appendices to your answers.