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Fall '12 Hackert (Complete this grade	CH370  HW- 1 (20 pts) - Due Sept. 25 (8:30 am) and homework independently, place all answers on this page, show work to	Name UT eID below, on back, or on	KEY attached pages. No credit for	- r Jate work)
b) Which for backbone? c) Homolog d) Where we	gous sequences within a single species that arose  Paralogous sequences  ould one expect to find DNA with a syn conformat  Chase in 2-0NA	g the conformate by gene dupli	ition of a polypepti cation, ase orientation?	de
<ul><li>2. Estimate the</li><li>(2)</li><li>3. Given the following</li></ul>	pI of the oligopeptide: $S - E - P - T - E - M - \frac{10}{10}$	-4-4/2 t	?→ ??\ of the culci	_) nal
temp, s'-TT	TCGCTAT~~5' AGCGATA~3'  S'~TTAGCGATA~3'	TAT	Costone	
(2) <u>Lucr</u> 5. Size, charge protein, nan  Property:	ole of luciferase and name of the sequencing techniques of the sequencing techniques, polarity and affinity are all characteristics of pane one representative separation technique for earlies of the size Charge ique: at fittation ion exch.	hnique that uti	lizes this protein?  Sequencing  be exploited to pure aracteristics:	nrify a y o hom,
with spheric that V <sub>o</sub> is 35 galactosidas estimate of 1	'gel filtration" column that is 100 cm in length a cal beads that are on average 0,20 mm in diamete 5% of V <sub>tot</sub> . The column is calibrated with trypsing (~116 kD) which gave Ve /Vo values of 2,50 amolecular mass (kD) for an unknown protein we	nd 3.00 cm in er with a density inhibitor (~2) and 1.50, respensith Ve (Vo = 1	diameter. It is pact by of 1.30 g/cm <sup>3</sup> . A 1.5 kD) and $\beta$ - actively. What is the control of $\alpha$	ked Assume ne best
column at predict to l	$V_{e}$ = 707 cm <sup>3</sup> $V_{e}$ = 618 cm <sup>3</sup> $V_{e}$ = 370 cm <sup>3</sup> $V_{e}$ = 49 4 cm $V_{e}$ = 40 4 cm $V_{e}$ = 4	onto a CMC (caracters) radient. Which $\rho \in \mathcal{N}$	arboxy methyl cell n protein would yo ABCO	ulose) u
9. (1) Two commo	the above proteins would come off first when all on affinity tags used to purify a protein are the Hiso the bound proteins can be eluted with independently:	I are loaded or tag and the malt	n a G-200 column? ose binding protein t	_13 (longist)