بسم الله الرحمن الرحيم

Q1: the overall folding of a single protein subunit is called :

-tertiary structure

-primary structure

-secondary structure

-quaternary structure

-all of the above

Q2 : disulfide bonds are most important in this type of structure :

-tertiary structure

-primary structure

-secondary structure

-quaternary structure

-all of the above

Q3 : which of the following forces are involved in maintaining the primary structure of protein :

-covalent bond

-hydrogen bond

-ionic bond

-hydrophobic bond

Q4 : which of the following amino acid is unlikely to be found in an alpha-helix due to its cyclic structure :

-phenylalanine

-tryptophan

-proline

-lysine

Q5 : assuming the oligo-peptied ALPHHELICKS forms one continuous alpha-helix , the carbonyl oxygen of the glutamic acid residue is hydrogen bonded to the amide nitrogen of :

-leucine
-isoleucine
-cysteine
-lysin
-serine

Q6 : which of the following best defines a domain :

-super-secondary region , often shared by proteins that has aspect function.
-repetitive super-secondary structure
-double bond layered arrangement formed so that the polar group face the aqueous environment while the nonpolar region are kept away from the aqueous environment
- an unfolded region of protein

Q7 : which of the following best describe the motif :

-repetitive super secondary structure
-common non-repetitive irregularity found in antiparallel beta sheet.
-protein conformation with biological affect
-group of atoms other than amino acid

Q8 : which one is not an example of super-secondary structure :

-the pyrrole ring
-the Greek key
-the beta meander
-the beta barrel

Q9 : vitamin c (ascorbic acid) prevent survey because :

-it's involved in formation the proper beta sheet of collagen

-it's involved in metabolism of hemi used in hemoglobin

-it encourages the formation of disulfide linkage in collagen

-it's unusual amino acid found in primary structure of collagen

-it's used to hydroxilate proline in the primary structure of the protein.

Q10 : the two amino acid frequently found in reverse turns are :

-tyrosin & tryptophan

-serine & threonin

-glycin & proline

-leucine & isoleucin

Q11 : the structure of myoglobin consist of :

-almost entirely of alpha helix

-almost entirely of beta sheet

-mixture of alpha & beta

-of unique secondary motif that is neither alpha helix or beta sheet

Q12 : why does the myoglobin have histidine that prevent both secondary CO from binding perpendicularly to the hemi plan :

-this increase myoglobins affinity for O_2

- this increase myoglobins affinity for CO_2

- this lessees the difference in myoglobins affinity for CO_2 versus O_2

-this prevents the iron of the hemi from being oxidized

Q13 : in what oxidation state must the iron atom be for hemi to bind O_2 :

-0 , Fe (0)

-+1 , Fe (I)

-+2 , Fe (II)

-+3 , Fe (III)

-there is no require oxidation state to use iron

Q14 : which of the following is not a characteristic of hemoglobin :

-it contain two different type of subunits

-it contain prosthetic group

-it's an allosteric enzyme

-all of these are true

Q15 : in the bohr effect the binding of oxygen to hemoglobin :

-is increased by the presence of Na+.

-is increased by the presence of H+/CO_2 .

-is decreased by the presence of H+/CO_2 .

- is unchanged.

Q16 : the affinity of fetal hemoglobin for oxygen :

-has not been studied

-the same as that of adult hemoglobin

- is lower than that of maternal hemoglobin

-is higher than that of maternal hemoglobin

Q17 : protein that aid in the correct and timely folding of other proteins are called :

-motifs

-chaperone

-liposome

-cooperative

Q18 : what tends to happen to the percent recovery during a protein purification :

-the number usually steadily increase during purification

-the number usually steadily decrease during purification

-the number usually stays fairly constant

-there is no general trend for percent recovery during protein purification

Q19 : the typical order for the major steps of enzyme Isolation would be from first to last :

-homogenization / salt fractionation / electrophories / column chromatography

-homogenization / column chromatography / salt fractionation / electrophories

-homogenization / salt fractionation / column chromatography / electrophories

-homogenization / electrophories / salt fractionation / column chromatography

Q20 : which separate on the basis of molecular weight :

-gel filtration

-affinity chromatography

-cation exchange

-anion exchange

-cation or anion exchange

Q21 : which would be best to separate a protein that binds strongly to X substrate :

-gel filtration

-affinity chromatography

-cation exchange

-anion exchange

-cation or anion exchange

Q22 : elution of protein by means of pH gradient would work best with this type of column :

-gel filtration

-affinity chromatography

-cation exchange

-anion exchange

-cation or anion exchange

Q23 : in the chromatography the experimental setup always requires :

-stationary phase & mobile phase

-spectrophotometric detecting device

-sample in which components differ in charge

-sample in which components differ in polarity

Q24 : the degree of separation in molecular sieve chromatography depend on :

-the polarity of the mobile phase

the pKa of the buffer material in mobile phase

the chemical nature of the sieve material

-the size of the pores in sieve material

Q25 : in the SDS-PAGE method separation takes place on the basis of :

-charge only , because all particles have different charges but the same mass

-the sieving action of the gel , because all particles have the same charges , but different masses

-the sieving action of the gel , because all peptide have approximately the same charge/mass ratio but different masses

-the chemical nature of the buffer used as the electrolyte

Q26 : how many bonds would be produced when hemoglobin is subjected to SDS-PAGE :

-1

-2

-3

-4

Q27 : if a protein with the sequence (FEWPRQVDMARINE) is treated with chymotrypsin what will the product be :

-F EW PRQVMARINE

-FE WPRQVD MARINE

-FEWRP QVDMAR INE

-FEWPRQVDM ARINE

Q28 : how much faster is a reaction with the fastest enzyme than without the catalyst :

- about 10 times faster

-about 100 times faster

-about 1000 times faster

-about 100,000 times faster

-about 10^{20} times faster

Q29 : if the Y-intercept of a line weaver-burk plot = 1.91 second/milimole and the slope = 75.3 L/sec V max equals :

-0.0254 miilimoles/second

-0.523 millimoles/second

-5.23 millimoles/second

-39.4 millimoles/second

-75.3 millimoles/second

Q30 : if the Y intercept of a line weaver bulk plot = 1.91sec/mmol and the slope= 75.3 L/sec then Km equal :

-0.0254 miilimoles per second

-0.523 millimoles per second

-5023 millimoles per second

-39.4 millimoles per second

-75.3 millimoles per second

Q31 : the value of Vmax changes in :

-competitive inhibition

-noncompetitive inhibition

-both forms of inhibition

-neither form of inhibition

Q32: irreversible inhibitors of enzymatic reactions :

-bind to the enzyme only at low temperature

-affect only serine side chains

-react with the enzyme to produce protein that is not enzymatically active & form which the original enzyme can't be regenerated

-bound to the enzyme by the lock-&-key mechanism

Q33: when [S] = Km the velocity of an enzyme catalyzed reaction is about :

-0.1*V max
-0.2*V max
-0.3*V max
-0.5*V max
-0.9*V max

Q34 : the active site of an enzyme :

-remains rigid & doesn't change shape
-is found at the centre of globular enzyme
-is complementary to the rest of the molecule
-contains amino acids without side chains
-none of the above is correct

Q35 : CTP is a known inhibitor of ATCase the enzyme that catalyzes the first reaction in the pathway for the synthesis of this compound this is an example of :

-irreversible inhibition
-feedback inhibition
-zymogene inhibition
-negative cooperatively

family is not always blood ,,,,
it's the people in your life who want you in theirs,,,
the ones who accept you for who you are ,,,
the ones who would do anything to see you smile & who love you no matter what ,, so all of you are part of my great family ,,,

Use this table to answer Q36/37/38/39 ^ ^

M	⟹	N	⟹	O	⟹	P	⟹	Q	⟹	R
	1		2		3		4		5	

Q36 : which 2 enzymes would be the most likely ones to regulate this pathway is Dedicated to the formation of only one product:

-2,4
-1,3
-1,5
-1,2
-4,5

Q37: which 2 enzymes would be the most likely ones to regulate if this pathway is freely reversible and can go both ways :

-2,4
-1,3
-1,5
-1,2
-4,5

Q38: the final product R will most likely inhibit which reaction :

-1,2
-1,3
-1,5
-2,4
-4,5

Q39: which of the following is not required for enzyme to display cooperative kinetics :

-multiple subunits

-a value for the Michaels constant ,Km

-allosteric sites which effect the binding of substrate to the active site

-ability to display a V max

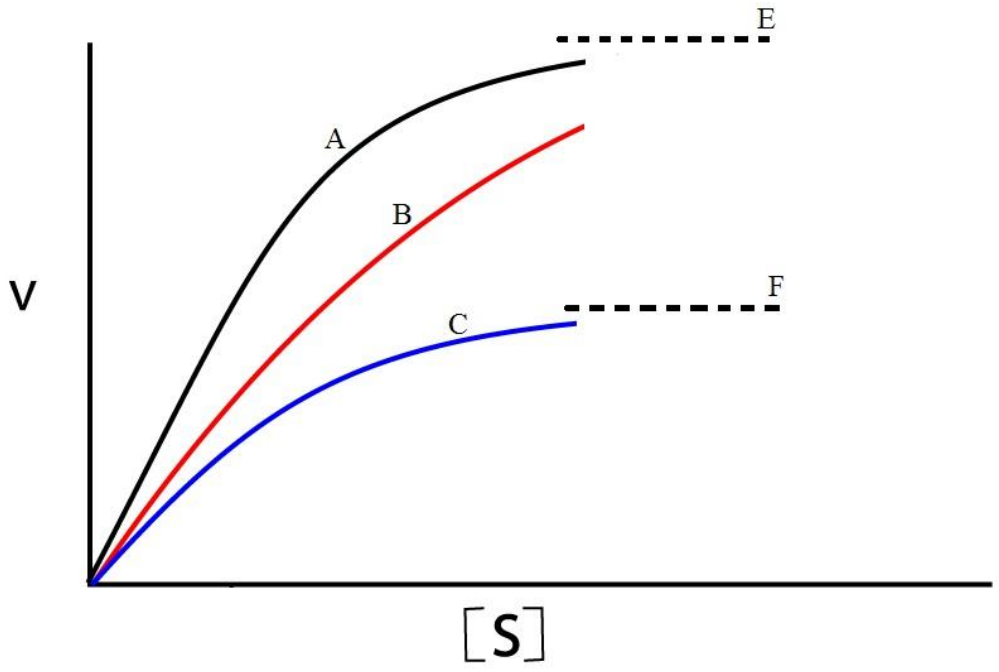
-all of these are characteristic of cooperative enzymes

Q40 :consider the following graph to represent an enzyme that works on its substrate under inhibition & no inhibition , according to this , answer the following three questions :

1))which letter represent the maximal reaction rate of enzyme activity under noncompetitive inhibition?? F

2))which letter represent enzyme activity under no inhibition?? A

3))which letter represent enzyme under competitive inhibition?? B



all the best wishes from us to you all ^^"