

# Important Questions on Protein Translation

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1.Match the following and chose the correct option.		5.Match the following and choose the correct option.				
I)Tetracycline	A) UAA	I)	Leader Sequence	A) Prokaryotic ribosome		
II)Amber	B) Bind with 30s subunit of ribosome	II)	Adaptor RNA	B) Deacylated t RNA		
III)O-N Shift	C) Post translation modification	III)	16s rRNA	C) tRNA		
IV)Erythromycin	D) Bind with 50 s subunit of ribosome	IV)	E-Site	D)5' untranslated region		
Option A. I-B, II-A, III-C, IV-D B. I-A, II-B, III-C, IV-D C. I-B, II-A, III-D, IV-C D. I-D, II-A, III-C, IV-B 2.Which of the following step does not occur in elongation of protein synthesis? A. Decoding B. Transesterification C. Transpeptidation D. Translocation J. Translocation 3.Match the following and choose the correct option. I)N-Formyl methionine A) Initiation Codon II)AUG B) Bacteria		Options A. I-A, II-C, III-D, IV-B B. I-D, II-C, III-A, IV-B C. I-D, II-A, III-C, IV-B D. I-D, II-C, III-B, IV-A 6.In protein synthesis, E site of ribosome shows high affinity for? A. Deacylated tRNA B. Acylated tRNA C. Peptide bound tRNA D. Ester linked tRNA 7.Which of the following elongation factor binds to Aminoacyl tRNA complex? A. EF-g B. Ef-Ts C. Ef-Tu				
<ul> <li>IV) A Site</li> <li>D) Binding with A site</li> <li>Option</li> <li>A. I-B, II-A, III-D, IV-C</li> <li>B. I-A, II-B, III-D, IV-C</li> <li>C. I-D, II-A, III-A, IV-C</li> <li>D. I-C, II-A, III-D, IV-B</li> <li>4. In prokaryotic protein synthesis process during initiation, upstream to initiation codon a particular sequence is present which is not found in eukaryotic cell?</li> <li>A. Shine Dalgarno sequence</li> <li>B. Kozak Sequence</li> <li>D. Both Sequence</li> <li>D. None</li> </ul>		<ul> <li>8.In posttranslational modification, formation of N- linked glycoprotein, carbohydrate is attached with which base?</li> <li>A. Asparagine.</li> <li>B. Serine.</li> <li>C. Threonine.</li> <li>D. Valine</li> <li>9.Which of the following reaction does not occur in post translational modification?</li> <li>A. Glycosylation.</li> <li>B. Proteolysis.</li> <li>C. Lipid Addition.</li> <li>D. Protein folding.</li> </ul>				



<ul><li>10.Following statements are given on post translational modification of proteins. Choose the incorrect statement.</li><li>A. In post translation modification, glycosylation of protein occurs.</li><li>B. Post translational modification can be reversible or irreversible.</li></ul>				C. Post translational modifications are only a reversible process. D. Structure and dynamics of proteins are significantly affected in post translational modifications.					
1. A 7. C	2. B 8. A	3. A 9. D	4. 1(	. A D. C	5. B	6. A			
SOLUTIONS									
1. Antibiotic tetracycline binds with 30s subunit of ribosome and interferes with aminoacyl tRNA binding, erythromycin binds with 50s ribosomal subunit and inhibits the elongation of peptidyl chain, UAA is termination codon known as Amber, O-N shift happens in post translational modification in which spontaneous splicing occurs.				<ul> <li>acylated and known as Amino acyl site.</li> <li>4.</li> <li>In protein synthesis Eubacteria consist a sequence upstream to initiation codon are known as Shine Dalgarno sequence at ribosomal binding site, it is poly purine sequence and found about 10 nucleotides upstream to initiation codon. Kozak sequences are found in Eukaryotic cells.</li> </ul>					
2.			<b>7</b>	5.					

In protein synthesis elongation step firstly decoding take place in which ribosome binds with amino acid tRNA complex, after that transpeptidation occurs in which transfer of peptidyl group occurs and finally translocation happens which polypeptides in are translocated; there is no transesterification in occurs elongation.

#### 3.

In bacteria first amino acid in newly synthesized poly peptide chain is N-Formyl methionine, AUG is initiation codon which code for methionine, initiation factor firstly binds to A site which is Upstream of initiation codon in translation contains а no translatable sequence which is known as 5' UTR (untranslatable leader sequence). reaion or Transfer RNA is known as adapter RNA because it provides interface between protein language and nucleic language. acid In prokaryotic ribosomes small sub unit 30s consist 16s rRNA. From E site in translation deacylated tRNA exits.

6.

In protein synthesis at ribosome from A site to P site, tRNA moves and exits from E site. Then tRNA is de acylated.



7.

Prokaryotic elongation factor, Ef-Tu and GTP complex, bind to aminoacyl tRNA complex, and help to bring amino acid to ribosome, and when it attaches to proper position GTP hydrolyse from EfTu.

#### 8.

In the formation of N-lined glycoprotein carbohydrates attach with amino terminal of amino acid. In the question given, asparagine contains nitrogen compound so it binds to carbohydrate. 9.

In posttranslational modification several types of confirmational changes of protein occurs, in which glycosylation, proteolysis and lipid addition types of reaction take part; folding of protein takes place after post translational modification which folded in polypeptide make 3D form of protein with the help of molecular proteins called chaperons.

#### 10.

Post translational modification may be reversible or irreversible. In reversible process, covalent linkage takes place. Irreversible types of modifications occur in one direction like proteolytic hydrolysis of proteins.



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