**Team leaders:**

عبدالله المانع

رانيا العيسى

**Written** **by:**

خالد القحطاني

محمد المهوس

**-Contact us:**

Biochemistryteam436@gmail.com

[twitter.com/436biochemteam](https://twitter.com/436biochemteam)

MSK Block

Review Questions





Creatine metabolism and collagen diseases



1-Which one of the following enzymes is used to transfer Guanidinoacetate to creatine?

A-Amidinotransferase

B-Methyltransferase

C-Creatine Kinase

2-Which one of the following is the end product of creatine metabolism?

A-Creatinine

B-Creatine

C-Creatine Phosphate

3- All of the following amino acids are required for creatine synthesis except?

1. Glycine

B- Alanine

C- Arginine

D- S-Adenosylmethionine

4-Which one of the following is the site of biosynthesis of creatine from Guanidinoacetate?

A-Skeletal muscles

B-Kidney

C-Liver

5-Which one of the following is the site of biosynthesis of guanidinoacetate from arginine and glycine?

A-Skeletal muscles

B-Kidney

C-Liver

6-In which one of the following organs creatine converts into phosphocreatine?

A-Skeletal Muscles

B-Kidney

C-Liver

 7-Which one of the following enzymes converts creatine into phosphocreatine?

A-Amidinotransferase

B-Methyltransferase

C-Creatine Kinase

8-Which one of the following acts as storage form of energy in muscle?

A-Creatinine

B-Creatine

C-Creatine Phosphate

9- The amount of creatine phosphate in the body is proportional to?

A-The bone mass

B-The muscle mass

C-Both A & B

D-None of them

10-Which one of the following is found in serum as a sensitive indicator of kidney disease?

 A-Creatinine

B-Creatine

C-Creatine Phosphate

11-The impairment of kidney function lead to?

A- Serum creatine decreases

B-Serum creatine increases

12- A urine sample taken from a 29 years old male with a muscle dystrophy, what is the most likely to aspect from the urine sample?

13-Which one of the following enzymes is responsible for generation of energy in contractile muscular tissues?

A-Amidinotransferase

B-Methyltransferase

C-Creatine Kinase

14-Creatine kinase level changes in?

15-What is the most abundant protein in the body?

16-Name three structures that collagen takes part in?

17-The half-lives of collagens?

A-Several days

B-A few months

C-Several years

D-A few minutes

18- Glycine is found in?

A-Every third position in polypeptide chain

B-Every forth position in polypeptide chain

C-Every fifth position in polypeptide chain

19-The three polypeptide chain are held together by?

A-Disulfied bond

B-Peptide bond

C- Hydrogen bond

20-which of the following amino acids prevents collagen chains to form alpha-helix?

A-glycine

B-proline

C-methionine

21-What is the enzyme that converts proline to hydroxyproline? And what is the vitamin required for its function?

22-Which one of the following type of collagen is found in basement membrane?

A-ll

B-lX

C-IV

23-Which one of the following type of collagen is found in intervertebral disc?

A-ll

B-lX

C-IV

24-Which one of the following type of collagen is restricted to cartilaginous structures?

A-ll

B-lX

C-IV

25-Name the types of collagen for network-forming collagens?

26-The polypeptide precursors of the collagen molecule are formed in?

A-mast cell

B-plasma

C-fibroblast

27- which one of the following peptidase is tropocollagen cleaved by?

A-N and Q procollagen B-M and Q procollagen

C-N and C procollagen D-M and C procollagen

28-what is the enzyme that oxidatively deaminates some of the lysine and hydroxylysine?

29-during the biosynthesis of collagen the hydroxylysine is glycosylated with?

30-the bond between the interchains at the C-terminal propeptide extension is?

A-disulfied bond

B-peptide bond

C- hydrogen bond

31-Which one of the following is acquired disease NOT genetically inherited disease?

A-Ehlers-Danlos syndrome

B- Scurvy

C- Osteogenesis imperfecta

32-Which one of the following deficiency causes scurvy?

A-Calcium

B- vitamin D

1. vitamin C

33-Which one of the following disease is characterized by hyper-extensibility of joints and skin?

A-Ehlers-Danlos syndrome

B- scurvy

C- osteogenesis imperfecta

 34- Which one of the following disease is characterized by hearing loss?

A-Ehlers-Danlos syndrome

B- scurvy

C- osteogenesis imperfecta

35-what is the most sever type of osteogenesis imperfecta?

36- Which one of the following disease replaces glycine with amino acids having bulky side chain?

A-Ehlers-Danlos syndrome

B- scurvy

1. osteogenesis imperfecta

|  |
| --- |
| Answers |
| Q1 | B |
| Q2 | A  |
| Q3 | B |
| Q4 | C |
| Q5 | B |
| Q6 | A |
| Q7 | C |
| Q8 | C |
| Q9 | B |
| Q10 | A |
| Q11 | B |
| Q12 | decresed level of urinary creatine. |
| Q13 | C |
| Q14 | Cardiac and skeletal muscles. |
| Q15 | collagen. |
| Q16 | connective tissue, teeth, skin, cartilage, tendon, blood vessels. |
| Q17 | C |
| Q18 | A |
| Q19 | C |
| Q20 | B  |
| Q21 | hydrolyase, vitamin C |
| Q22 | C |
| Q23 | A |
| Q24 | A |
| Q25 | type IV and VII |
| Q26 | C |
| Q27 | C |
| Q28 | lysyl oxidase |
| Q29 | glucose and/or galactose |
| Q30 | A |
| Q31 | B |
| Q32 | C |
| Q33 | A |
| Q34 | C |
| Q35 | glucose and/or galactose |
| Q36 | C |