Biochemistry Marathon - II

Special class

Mohammed Azam • Dec 2, 2020

Biochemistry Marathon

By

Dr Mohammed Azam

Biochemistry Marathon – II

Target FMGE Dec'2020

DR. MOHAMMED AZAM

Telegram Group : Biochemistry(FMGE) by Dr Azam

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DRAZAM10

Biochemistry Marathon – I

1st Dec'2020 – 5pm

Chemistry of proteins and Amino acid Metabolism, ETC, Enzymes, Molecular Biology

Biochemistry Marathon – II

2nd Dec'2020 – 5pm

Chemistry of Carbohydrates and Metabolism , Chemistry of Lipids and Metabolism, Haemoglobin, Vitamins and Minerals.

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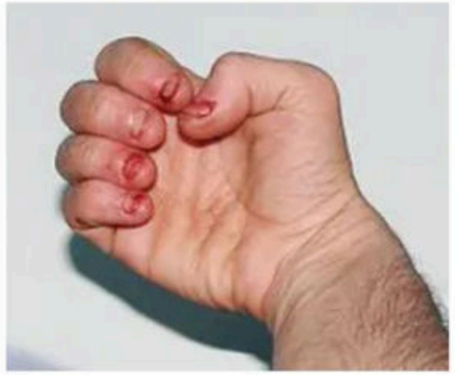
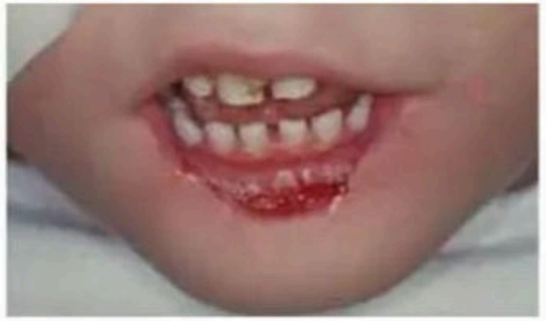
Q) Enzyme deficient in the given image…

a) Adenine Phosphoribosyl transferase
b) Hypoxanthine Guanine Phosphoribosyl transferase
c) Homocysteine methyltransferase
d) Methyl malonyl Coa Mutase





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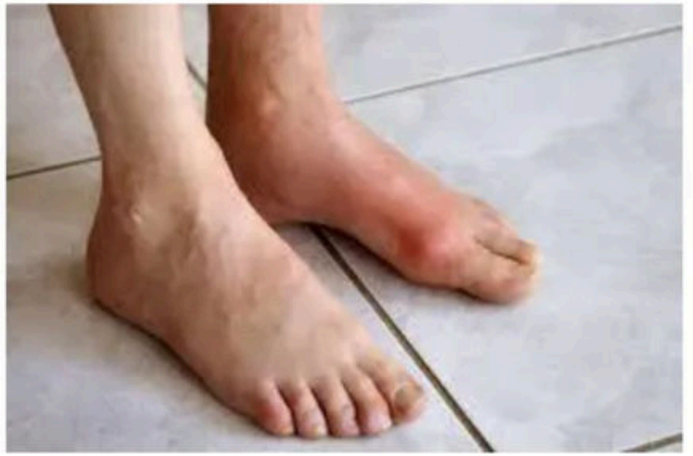
Q) Drug used for the treatment of condition shown in the image inhibits which enzyme?

a) PRPP Synthase
b) Xanthine Oxidase
c) HGPRTase
d) Nucleotidase



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Q) A newborn baby refuses breast milk since the second day of birth, vomits on force-feeding but accepts glucose-water, develops diarrhea on third day, by fifth day, she is jaundiced with liver enlargement and eyes show cataract. Urinary reducing sugar was positive but blood glucose estimated by glucose oxidation method was found low. The most likely cause is deficiency of

a. Galactose-1-phosphate uridyltransferase

b. Beta galactosidase

c. Glucose-6-phosphate

d. Galactokinase

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Q) A baby boy 10 month old comes with vomiting, severe jaundice, hepatomegaly and features of irritability on starting weaning with fruit juice. Which of the following enzymes is defective ?

a) Fructokinase
b) Aldolase B
c) Glucose 6 phosphatase
d) Galactose 1 phosphate uridyl transferase

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Q) Enolase is inhibited by ...

a) Flouroacetate
b) Flouride
c) Malonate
d) Arsenite

GLYCOLYSIS / EMBDEN - MAYERHOFF PATHWAY

Site

RLE

Irreversible Reactions

Net Gain of ATP

Inhibitor

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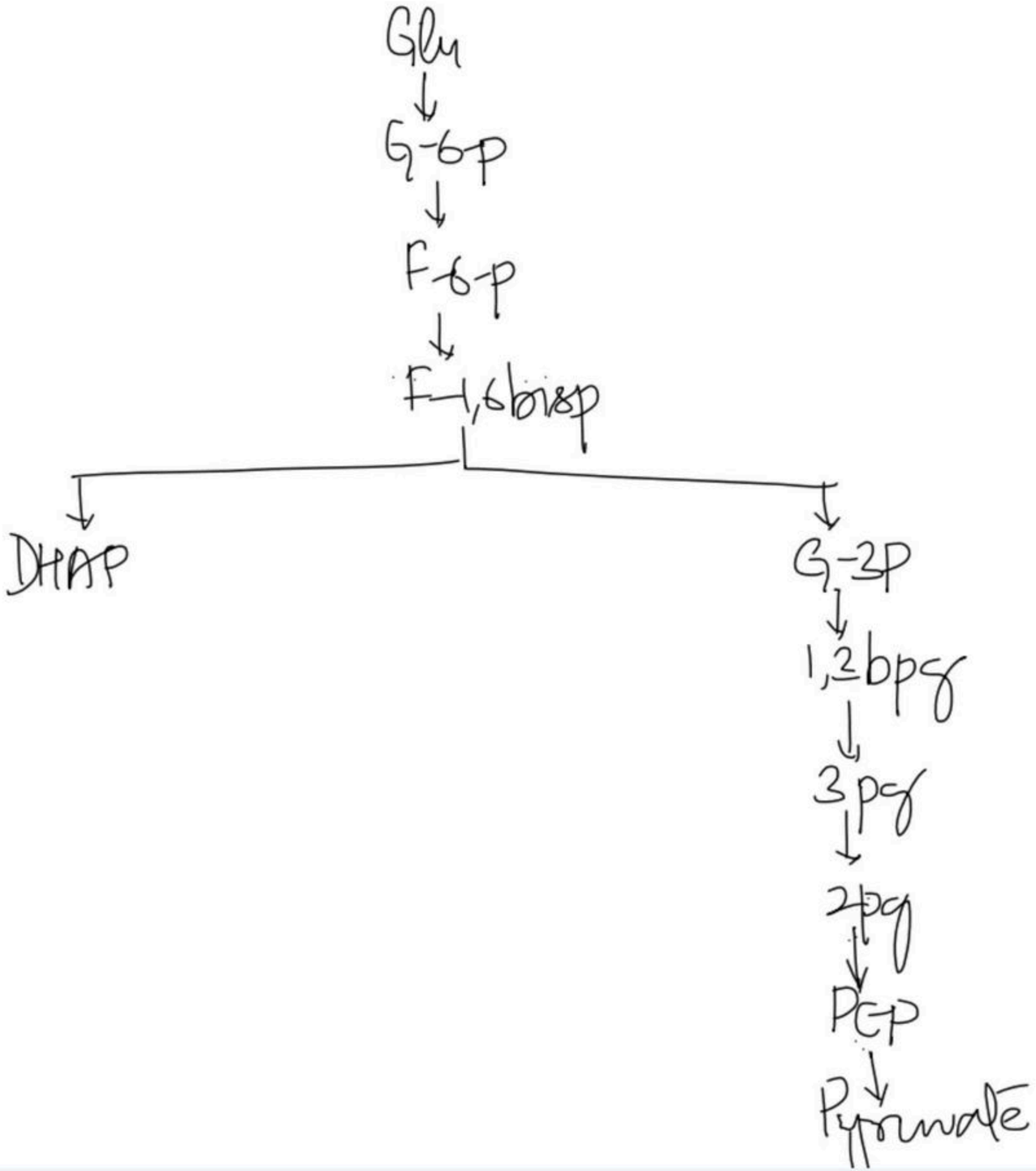
Q) Key enzymes of gluconeogenesis except

a) Pyruvate carboxylase
b) Phosphofructokinase
c) Fructose 2,6 bisphosphatase
d) Glucose 6 phosphatase


Glu
G-6-P
F-6-P
F-1,6bisP
DHAP
G-3P
1,3bpg
3pg
2pg
PEP
Pyruvate

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Q) De Novo Synthesis of fatty acid requires which coenzyme....

a) FAD
b) NAD
c) NADPH
d) TPP

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Q) Enzyme deficiency seen in POMPE's disease

a. Muscle glycogen phosphorylase
b. Acid maltase
c. Glucose 6 phosphatase
d. Amylo-transglucosidase

Disease	Enzyme Deficient
Carbohydrates	
Type I/ Von Gierke's Disease	Glucose-6-phosphatase
Type II/Pompe's Disease	Acid Maltase
Type III/Cori's Disease	Debranching Enzyme
Type IV/ Anderson's Disease	Branching Enzyme
Type V/ Mc Arlde's Disease	Muscle Glycogen Phosphorylase
Type VI/ Her's Disease	Hepatic Glycogen Phosphorylase

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Q) All of the following are rate limiting enzymes, EXCEPT

a. Phosphofructokinase 1
b. Glycogen synthase
c. Glycogen phosphorylase
d. Glycogen phosphatase

Pathway	Site	Rate limiting enzyme
CARBOHYDRATE METABOLISM		
Glycolysis/Embden Mayerhoff Pathway (EMP)	Cytosol	Phosphofructokinase-I (PFK-I)
Krebs Cycle /TCA cycle /Citric Acid Cycle	Mitochondrial Matrix	Isocitrate Dehydrogenase
Gluconeogenesis	Liver & Kidney (Cytosol & Mitochondria)	Fructose 1,6-bisphosphatase
Glycogenesis	Liver & Skeletal muscle (Cytosol)	Glycogen Synthase
Glycogenolysis	Liver & Skeletal muscle (Cytosol)	Glycogen Phosphorylase
HMP Shunt/ Pentose Phosphate pathway	Cytosol	Glucose-6-Phosphate dehydrogenase (G6PD)

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Q) The most essential fatty acid among the following is

a. Linoleic acid
b. Linolenic acid
c. Palmitic acid
d. Arachidonic acid

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Q) All are derived from cholesterol EXCEPT

a. Vitamin D

b. Bile salt

c. Bile pigment

d. Steroid

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Q) Beta oxidation of fatty acid occurs in which organelle

a. Mitochondria
b. Endoplasmic reticulum, mitochondria
c. Microsomal system
d. Peroxisomes

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Q) Gauchers disease is due to deficiency of which enzyme

a. Beta galactosidase
b. Hexosaminidase – A
c. Glucocerebrosidase
d. Sphingomyelinase 30.Chylomicrons

Lipid Storage Diseases	
Niemann Pick Disease	Sphingomyelinase
Gaucher's Disease	Beta-Glucocerebrosidase
Krabbe's Disease	Beta- Galactocerebrosidase
Fabry's Disease	Alpha- Galactocerebrosidase
Tay Sach's Disease	Hexosaminidase A
Sand Hoff's Disease	Hexosaminidase A & B

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Q) Which of the following transports fructose

a. Glut 1
b. Glut 2
c. Glut 3
d. Glut 5

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Q) Carboxylation of clotting factor by vitamin K is required to be biologically active. Which of the following amino acid is carboxylated

a. Histidine

b. Histamine

c. Glutamate

d. Aspartate

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Q) Wenicke encephalopathy is due to deficiency of ....

a) Vit B1
b) Vit B2
c) Vit B6
d) Vit B12

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Q) Biotin is a co-factor for

a. Carboxylase

b. Oxidase

c. Hydrolase

d. Decarboxylase 13.Other name

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Q) Burning foot syndrome is due to deficiency of which of the following vitamins

a. Riboflavin

b. Niacin

c. Pantothenic acid

d. Thiamin

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Q) If content of A is 15%, what is the amount of G in DNA according to Chargaff's rule

a. 15%

b. 85%

c. 35%

d. 70%

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