Endo - metabolism

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Lecture 1&2

Bioenergetics & ETC

Done by :

Nour

metabolism-lecture (1&2)

1.A patient has been exposed to a compound that increases the protons permeability across the inner mitochondrial membrane.
what would be expected to happen?
A- Increased oxygen utilization
B- Decreased pyruvate dehydrogenase activity
C- Decreased malate-aspartate shuttle activity
D- Increased ATP levels
E- Increased FO/F1 ATP synthase activity

Answer : A

Explanation : increasing the permeability means that there is less energy produced, as a compensation mechanism the cell does more and more ETC utilizing more oxygen

2.Super high energy molecules stored energy in which of the following:
A- bond
B- electrons
C- atoms

Answer : A

metabolism-lecture (1&2)

3.All of the following are high energy molecules except:

A- NADH

B- FADH2

C- Dihydroxyacetone phosphate

D- 1-3 bisphosphoglycerate

E- phosphoenolpyruvate

Answer : C

4.Regarding the proton pump activity in ETC, what is correct?

A- Forms a pore within inner mitochondrial membrane

B- Causes asymmetrical transfer of protons through inner mitochondrial membrane

Answer : B

5.Antimycin A block between cytochrome c, then ?

Inhibition of all ATP synthesis

6.Differences in ATP production is due to?

shuttling of NADH molecules

metabolism-lecture (1&2)

7.A patient is poisoned with antimycin A that inhibits cytochrome c of ETC, what changes occur to energy production?

A- no energy production at all

B- energy is produced in less amounts

C- energy is produced in slower rate

D- energy is produced for short period of time

E- energy production is not affected due to increased rates of ETC

Answer : A

8.Energy rich molecule ?

A- NADH/ FADH2

B- phosphoenolpyruvate

C- 1,3 bisphosphoglycerate

D- 1,3 disphosphoglycerate

Answer : A

Endo - metabolism

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Lecture 3&6

Enzymes in medicine

Done by :

Nour

metabolism-lecture (3&6)

1.The biomarkers which used in acute pancreatitis, cholestasis and urinary bladder cancer :

A- Amylase, ALP and beta glucorindase

B- Streptokinase, ALP and beta glucorindase

C- Amylase, beta glucorindase and ALP

D- Lipase, AST and beta glucorindase

E- Streptokinase, AST and beta glucorindase

Answer : A

2.To differentiate the diagnosis of biliary obstruction from bone disease, ALP used with :

A- AST

B- CK

C- LDH

D- GGT

Answer : D

3.Which of the following enzymes increase in perforated peptic ulcer :

A- ALP and AST

B- creatinine kinase and phospholipase

C- Amylase and Lipase

Answer : C

Endo - metabolism

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Lecture 4+5

Glycolysis I + II

Done by :
sura qasem

metabolism-lecture (4+5)

1) Most regulatory and rate limiting step in glycolysis mediated by:

A. Hexokinase.

B. Pyruvate kinase.

C. PFK-1.

D. PFK-2

Answer: C

2) The enzyme that allosterically inhibited by accumulation of its own product is:

A. Hexokinase.

B. Glucokinase.

C. PFK-1.

D. Pyruvate kinase.

E. PFK-2.

Answer: A

3) All of the following are link between carbohydrate and fatty acid except:

A. DHAP.

B. GAP.

C. Acetyl CoA.

D. Phosphoenolpyruvate

Answer: D

metabolism-lecture (4+5)

4) All of the following are high energy molecules except:

A. NADH.

B. FADH2.

C. Dihydroxyacetone phosphate.

D.1-3 bisphosphoglycerate.

E. Phosphoenolpyruvate.

Answer: C

5) During gluconeogenesis, the conversion of glucose 6-P to glucose is catalyzed by glucose-6-phosphatase. Which of the following statement is true about this reaction?

A. The reaction occurs in mitochondria

B.Abnormal glycogen accumulation in liver is a result of this enzyme deficiency

C. Conversion of glucose 6-phosphate to glucose releases a molecule of ATP

D. It is a highly active enzyme in skeletal muscles

E. It can be reversed also by hexokinase and/or glucokinase

Answer: E

6) Super high energy molecules stored energy in which of the following:

A. bond

B. electrons

C. atoms

Answer: A

7)glycolysis has as the rate limiting enzyme, which is inhibited by

Answer: PFK-1, Citrate

metabolism-lecture (4+5)

8) About hexokinase IV, all of the following are true, except:

A. has high Km value and low affinity

B. expressed in pancreas and liver

C. add phosphate at carbon 1

Answer: C

9) in glucogenolysis and glucogenesis the enzyme used in both is ?

A. Phosphoglucomutase

B. Pyruvate kinase

Answer: A

10) carbohydrate and fat metabolism linked by ?

A. DHAP

B. 1.3 Bisphosoglucerate

Answer: A

11) Energy rich molecule?

A. NADH/FADH2

B. phosphoenolpyruvate

C. 1,3bisphosphoglycerate

D.1,3disphosphoglycerate

Answer: A

12) The enzyme that is inhibited by fluoride?

A. Fumarase

B. Enolase

C. malate dehydrogenase

D. pyruvate kinase

Answer: B

metabolism-lecture (4+5)

13) The following reaction or step is reversible?Select one:

A. Acetyl CoA formation reaction

B. Formation of pyruvate from phosphoenolpyruvate

C. Phosphorylation of fructose-6-phosphate to fructose 1,6 bisphosphate

D. Cleavage of fructose 1,6 bisphosphate by aldolase enzyme

E. Phosphorylation of glucose to glucose-6-phosphate

Answer: D

Endo - meta

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Lecture 7

Citric Acid Cycle

metabolism-lecture (7)

1)Which of these enzymes is stereospecific:

.A- Isocitrate dehydrogenase

.B- G6P Dehydrogenase

.C- Fumarase

.D- Pyruvate carboxylase

Answer: C

2total ATP molecules in the liver

A)28

B)30

C)32

D)34

Answer: C

Endo - biocem

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Lecture 8

Gluconeogenesis

Done by :
Razan fawwaz

metabolism-lecture (8)

1 . The enzyme that allosterically inhibited by accumulation of its own product is :
A- Hexokinase.
B- Glucokinase.
C- PFK-1.
D- Pyruvate kinase.
E- PFK-2.

Answer: A

2 . During gluconeogenesis, the conersion of giucose 6-P to gucose is catalyzed by glucose-6 phosphatase.Which of the following statement is true about this reaction?
A) The reaction occurs in mitochondria
B) Abnormal glycogen accumulation in liveris a result of this enzyme deficiency Conversion of glucose 6-phosphate to glucose releases a molecule of ATP
D)It is a highly active enzyme in skeletal muscles
E) It can,t be reversed also by hexokinase and /or glucokinase

Answer:E

3. glycolysis has,
as the rate limiting enzyme, which is inhibited by_-

Answer: PFK-1, Citra

metabolism-lecture (8)

4. Apatiemt has been exposed to acompound that increases the protons permeability across the inner mitochondrial membrane.
What would be expected to happen?
Select one:
a. Increased oxygen utilization
b.Decreased pyruvate dehydrogenase activity
c. Decreased malate-aspartate shuttle activity
d.Increased ATP levels
e.Increased FO/F1 ATP Ssynthase activity

Answer: A

5 .The glycolysis and gluconeogenesis linked by which enzyme ?
A. Phosphoglycerate kinase
B. hexokinase
C. pyruvate kinase
D. PFK -2/FBPase-2

Answer D

6. Wrong about pyruvate carboxylase?
A) Its action in inner mitochondrial space

metabolism-lecture (8)

7. Enzyme/s is considere d as a positve regulator for both glycolysis/gloconeogensis?)
A. Phosphoglycerate kinase
B. hexokinase
C. pyruvate kinase
D. PFK -2/FBPase-2

Answer D

8. According to the reactant in gluconeogenesis all are true except?
AJ2 pyruvate
B) 2NAD
C)4ATP
D)4Pi
E)2GTP

Answer: D

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Endo - meta

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Lecture 9

Done by :
banan al-khawaldeh.

metabolism-lecture (9)

1.Von gierk's disease include all the following manifestions except:
A) muscle cramps and fatigue after exercise
B) fatty liver and hepatomegaly
C) renal failure
D) hyperlipidemia

Answer: A

2.Glucagon and epinephrin action in liver ?
A) Activate glycogen phosphorelase inhibit glycogen synthase*

3.in glucogenolysis and glucogenesis the enzyme used in both is ?
A. Phosphoglucomutase
B. Pyruvate kinase

Answer: A

Endo - metabolism

Archive

Lecture 10

Fructose & Galactose Metabolism

Done by :
sura qasem

metabolism-lecture (10)

1) One of the following is not regarding to Abnormalities in fructose metabolism:

A. fructosuria = deficincy in fructokinase

B. HFI is sever condition

C. fructose malabsorbtion = deficiency in GLUT5

D. fructosuria are asymptomatic

E. HFI cause fasting hypoglycemia because of depletion of fructose-1-phosphate that required for glycolysis & glycogenesis

Answer: E

2) carbohydrate and fat metabolism linked by ?

A. DHAP

B. 1.3Bisphosoglucerate

Answer: A

3) All of the following are differences between aldolase A and aldolase B except?

A. They are used in splitting, condensation reaction (الصياغة غير دقيقة)

B. tissue

C. substrate

D. product

E. the way of act

Answer: A