CVS-Biochemistry

Archive

Lecture 1

Biochemistry of cardiac muscle-1

Corrected By :
Besan Khaled

CVS-Biochemistry Lecture 1

1.Creatine kinase is important in phosphocreatine production, what statement is correct?
A. CK not associated with myofilaments
B. isozyme is found in mitochondria (mi-CK) and accounts for more than 50%
C. The mi-CK isoform is coupled to the outer membrane
D. replenishing ATP in ATPase active sites, such as myosin heads.
E. low Ck/ATP not fatal

Answer : D

2. Phosphorylation/dephosphorylation in PDH is regulated by kinase and phosphates, what is correct?
A. Mg++ and Ca++ activate inhibiting enzyme
B. low ATP/ADP and decrease acytel co/coa inhibit inhibiting anzyme
C. low NADH/NAD and decrease purvate concentration activate inhibiting enzyme
D. Increased ATP/ADP and increased Co/acytel coa inhibit activating enzyme

Answer : b

3.Which of the following correctly describes phosphorylation[]dephosphorylation of PDH ?
Low ATP/ADP and Low acetyl CoA/CoA inhibits the inhibiting enzyme

4.An explanation for the no changes in mechanical capacity of heart even with increased oxygen consumption during utilization of fatty acids
Increased oxidative stress caused by oxidation of fatty acids

5.pyruvate dehydrogenase multienzyme complex IS a key regulatory enzyme in glucose utilization: it can be inhibited by all of the following except?
a. ATP/ADP
b. NADH+H+INAD
c. Acetyl CoA/COA
d. Citrate/pyruvate
e. NADPH+H+/NADP

Answer : E

CVS-Biochemistry Lecture 1

6. PFK-I is catalyzing the conversion of fructose 6-phosphate into fructose l,6 biphosphate, all of the following can inhibit this enzyme except? Select one:
a. decrease ADP/ATP ratio
b. increase NADH+H+/NAD ratio
C. decrease Activity of PI3 kinase
d. increase Activity of electron transport chain
e. decrease Activity of PFK-2

Answer : C

7.in the high altitude, you stayed for an hour, the following changes will happen in metabolic pathways of your cardiomyocytes except? Select one :
a. increase Glycolysis
b. decrease B oxidation of fatty acids
C. increase production of phosphocreatine
d. Accumulation of NADH+H and lactic acid
e. decrease Oxidative electron transport chain activity

Answer : C

one of the following have the most coactivator on PPAR Answer :
medium-chain Acyl-CoA dehydrogenase

An explanation for the no change in mechanical capacity of heart even with increased oxygen consumption during utilization of fatty acids?
Increased oxidative stress caused by oxidation of fatty acids

CVS-Biochemistry

Archive

Lecture 2

Biochemistry of cardiac muscle-2

Corrected By :
Besan Khaled

CVS-Biochemistry Lecture 2

1.Why can't the liver utilize the ketone bodies it produces?
Because it lacks one of the enzymes of ketolytic pathway

why can't the liver utilize the ketone bodies it produces?
answer: Because it lacks one of the enzyme of ketolytic pathway

A patient came to the emergency room with hyperglycemia and hyper triglyceridemia, what the cause
A. Decrease LPL activity
B. Increased hepatic synthesis of lipid
answer:a

Why can't the liver utilize the ketone bodies it produces?
Because it lacks one if the enzymes of ketolytic pathway

CVS-Biochemistry

Archive

Lecture 3

Cholesterol

Corrected By :
Besan Khaled

CVS-Biochemistry Lecture 3

1. An important factor for regulating cholesterol synthesis is sterol regulatory element, which pair contains this factor?
a. SREBP and SCAP
b. SCAP and Insig-1

Answer : A

2. Phosphorylated PP1-1 is one of the enzymes that play a critical role in regulating cholesterol synthesis through the direct inhibition of the following enzyme?
Select one:
a. Liver kinase B1
b. Protein phosphatase 2C
c. Protein kinase A
d. Calcium calmodulin-dependent protein kinase kinase (caMKK)
e. AMP activated kinase

Answer : B

3. In cholesterol synthetic pathway, which of the following coenzymes is serving as a hydrogen donor in the reactions catalyzed by HMG-COA reductase and squalene epoxidase? FW
Select one:
a. NAD
b. Pantothenic acid
C. NADP .
d. Lipoic acid
e. FAD

Answer : C

4. Prenylated proteins and Coenzyme Q can be produced in order from the following intermediates of cholesterol synthetic pathway? Select one
a. Farnesyl pyrophosphate and HMG-COA
b. Squalene and geranylgeranyl pyrophosphate
c. Dimethylallyl pyrophosphate and 2,3 oxidosqualene
d. Geranylgeranyl pyrophosphate and Farnesyl pyrophosphate
e. Mevalonate 5 phosphate and mevalonate 5 pyrophosphate

Answer : D

CVS-Biochemistry Lecture 3

5. Cholesterol synthesis and ketogenesis , have the partial similarities , what are the sets of enzymes in the reaction in both ?
A. beta thiolse HMG-COA reducatse
B. HMG synthase , betathiolase
C. HMG lyase and HMG synthase

Answer : A

6. Cholesterol is important to steroidal hormone, what statement is correct ?
A. all from eukaryotic and prokaryotic
B. the reductant in synthetic pathway is also important in oxidant / antioxidant reactions
C. no long term regulation
D. the intra cellular cholesterol targeted

Answer : B

what's correct about cholesterol synthesis pathway ?
a. Antioxidant
b. Same with ketogenic
c.Neither a nor b is correct.

answer:c

an important factor for regulating cholesterol synthesis is sterol regulatory element, which pair contains this factor?
a. SREBP and SCAP
b. SCAP and Insig-1

Biochemistry

Archive

Lecture 4

Corrected By :

SUJOOD ABUSROOR

Biochemistry Lecture 4

1- The Integral protein of CM is?
ApoB-48

2) Dietary triglycerides Is ? Chylomicrons

3-Which of the following Lipoproteins best matches its description? Select one: MW
a. Chylomicrons-> composed mainly of triglycerides synthesized in hepatic calls
b. LDL> contains Ape-848 and Apo-CII on its surface.
c. VLDL-> migrates faster to anode than LDL during electrophoresis.
d. HDL-> the major donor of free cholesterol to peripheral tissues.
e. Lipoprotein (a)-> protects against thrombogenesis

ANSWER:C

4-Which of the following statements best describes chylomicron (CM) remnant? MW Select one: a. Its size is larger than nascent CM. b. it contains high triglycerides content and low cholesterol concentration. c. Apo-E is the only protein present on its surface. d. It is enriched in cholesteryl ester and fat soluble vitamins. e. It is recognized by liver because they contain Apo-AI on its surface.

ANSWER:D

5-which one of the following statements concerning high density lipoprotein (HDL) metabolism is CORRECT? Select one: MW
a. HDL is synthesized exclusively for intestine with Apo-C and Ape-E on its surface.
b. It esterifies free cholesterol to cholesterol ester via cholesterol ester transfer protein (CETP).
c. Cholesterol ester of HDL is selectively taken up by liver cells via scavenger receptors-B1.

ANSWER:C

Biochemistry

Lecture 4

6-Which of the following mechanisms mainly explains atherosclerosis in familial hyperlipoproteinemia (broad beta; type III)? FW
Select one:
a. Improper removal of VLDL remnants and chylomicron remnants from circulation.
b. Deletion of ABC-Al transporters that leads to cholesterol accumulation within blood cells.
c. High blood level of free cholesterol due to defective Ape-Al.
d. Increased triglycerides in blood due to defect in its hydrolysis by lipoprotein lipase.
e. High level of Triacylglycerol due to mutation of microsomal transfer protein (MTP

ANSWER:A

7-What is the cardiac biomarker that remains elevated for the longest time?
LDH

8-Lipoprotein lipase breaks down TG in VLDL, what apoprotein acts as a catalyst for this enzyme?
Apoprotein CII

9- What is the HDL receptor in the liver?
Scavenger receptor class B

All the following are true about lipoprotein except
A. Chylomicron have the low density but still in origin because non mobile
B. VLDL slower than LDL and have lower lipid
C. Albumen & FFA the first to move

answer:b

CVS-Biochemistry

Archive

Lecture 5

Disorders of Lipoprotein Metabolism

Collected By :

Mohammad Mousa

CVS-Biochemistry Lecture 5

1. Which of the following mechanisms mainly explains atherosclerosis in familial hyperlipoproteinemia (broad beta; type III)? Select one:
a. Improper removal of VLDL remnants and chylomicron remnants from circulation.
b. Deletion of ABC-Al transporters that leads to cholesterol accumulation within blood cells.
c. High blood level of free cholesterol due to defective Ape-Al.
d. Increased triglycerides in blood due to defect in its hydrolysis by lipoprotein lipase.
e. High level of Triacylglycerol due to mutation of microsomal transfer protein (MTP)

Answer: A

2.What disease leads to the accumulation of acylglycerols in the liver and intestine?
A. hypolipoproteinemia
B. hyperlipoproteinemia 1
C. hyperlipoproteinemia 3
D. steatohepatitis
E. hyperalphalipoproteinemia

Answer: A

76. Heparnized sample from patient with high level of VLDL and Triglyceride, showing low activity of Lipoproten lipase, possible cause ?
A. deficiency in apo-B
B. deficiency in lipoprotein lipase
C. deficiency in apo-Al
D. deficiency in apo-Cll

Answer: B. deficiency in lipoprotein lipase

CVS-Biochemistry

Archive

Lecture 6

Cardiac Biomarkers

Collected By :

Mohammad Mousa

CVS-Biochemistry Lecture 6

1. What is the cardiac biomarker that remains elevated for the longest time?

Troponin T

2. A patient came to ER 12 hours after experiencing chest pain, what 2 cardiac biomarkers would be at their peak during this time?

a. Troponin and LDH
b. Myoglobin and CK-MB
c. AST and LDH

Answer: B

3. Which of the following biochemical markers will be the most specific to acute myocardial infarction? Select one:

a. Total creatine kinase
b. Cardiac troponin l
c. Creatine kinase/MM
d. Lactate dehydrogenase
e. Myoglobin.

Answer: B

4.Which of the following biochemical markers would you prefer to diagnose early acute myocardial infarction? Select one:

a. Total creatine kinase and lactate dehydrogenase.
b. Heart fatty acid binding protein and copeptin.
c. Cardiac troponin and Ischemia modified albumin.
d. Creatine kinase/MM and aspartate transaminase.
e. miRNA-499 and troponin C.

Answer: B

5.Which of the following biochemical markers are most commonly used to diagnose ischemia?

A. IMA & GPBB
B. Copeptin & troponin
C. CK-MB & troponin

Answer: A

CVS-Biochemistry Lecture 6

6.Biomarker that correlates with cardiac damage ?

A. LDH
B. CK-MB
C. myoglobin
D. ALT

Answer: B

7.Sets of Biomarkers have the same sensitivity after 3-12 days ?

A. troponin/CK-MB
B. total CK/ myoglobin
C. LDH/troponin
D. LDH / Total CK

Answer: A

Remain elevated for days: Trooping I