QUIZ Time

Histology 16,17,18

Corrected by:rahaf alfogaha

لجنة طب الأسنان

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1. Recognize the origin of muscle tissue.
A.It is neural crest in origin.
B.It is endodermal in origin.
C.It is mesodermal in origin.
D.It is ectodermal in origin.

2. Know the different types of muscle tissue.
A •Skeletal muscle, •Cardiac muscle, •Smooth muscle
B•Cardiac muscle, •Striated muscle, •Smooth muscle
C•Smooth muscle, •Striated muscle, •Non-striated muscle
D•Striated muscle, •Dense muscle, •Smooth muscle

3. Describe the histological structure of each type of muscle tissue.
A. Skeletal muscle does not exhibit cross striations.
B.Skeletal muscle exhibits longitudinal striations at electron microscope level.
C.Skeletal muscle exhibits cross striations at light microscope level (striated).
D.Skeletal muscle contains branching at the myofibrils.

4. Illustrate functions of different muscle tissue.
A. Skeletal muscle contraction is spontaneous without any control.
B.Skeletal muscle contraction is rhythmic and involuntary.
C.Skeletal muscle contraction is involuntary.
D.Skeletal muscle contraction is usually voluntary and under the control of will.

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5. Structure of skeletal muscle fiber (cell) (L/M).
(A) Shape: irregular and branched.
(B) Shape: long and cylindrical, branching in all muscles.
(C) Shape: long and cylindrical, non-branching except in the muscles of the face and tongue.
(D) Shape: short and spherical, non-branching.

6. Components of the connective tissue of the skeletal muscle.
(A) Epimysium, Collagen fibers, Reticular fibers
(B) Basal lamina, Reticular fibers, Epimysium
(C) Perimysium, Epimysium, Basal lamina
(D) Epimysium, Perimysium, Endomysium

7. Characteristics of the sarcolemma in skeletal muscle fiber.
(A) Each muscle fiber lacks a cell membrane.
(B) Each muscle fiber is surrounded by multiple layers of connective tissue without a basal lamina.
(C) Each muscle fiber is surrounded by a basal lamina only.
(D) Each muscle fiber is surrounded by a cell membrane called sarcolemma, associated from outside by a basal lamina.

8. Description of satellite cells in skeletal muscles.
(A) They function mainly in lipid storage.
(B) They are large cells that store glycogen.
(C) They are stem cells and responsible for the repair of small defects of the skeletal muscles by formation of new muscle fibers.
(D) They are responsible for the voluntary contraction of muscles.

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9. Key components found in the sarcoplasm of skeletal muscle fiber.
(A) Only myoglobin and mitochondria.
(B) Only myofibrils and SER.
(C) Primarily glycogen and lipid droplets.
(D) Myofibrils, sarcoplasmic reticulum (SER), long mitochondria.

10. Details of myofibrils in skeletal muscle fiber.
(A) Each muscle fiber contains a plenty of long, cylindrical myofibrils which run
parallel to the long axis of the muscle fiber.
(B) Each muscle fiber contains a limited number of short, branched myofibrils.
(C) Each muscle fiber does not contain myofibrils but instead short filaments.
(D) Each muscle fiber contains myofibrils that are circular and randomly arranged.

11. I band contains only actin filaments attached to Z line.
A.I band contains both actin and myosin filaments.
B.I band contains only actin filaments attached to Z line.
C.I band contains only myosin filaments.
D.I band contains both actin filaments and Z lines attached.

12.Z line is mainly formed by α -actinin and desmin proteins.
A.Z line is mainly formed by tropomyosin and troponin proteins.
B.Z line is mainly formed by myosin and actin proteins.
C.Z line is mainly formed by α -actinin and desmin proteins.
D.Z line is mainly formed by myoglobin and mitochondria.

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13.A band contains actin and myosin filaments, these filaments overlap for some distance within the periphery of the band. A band shows a lighter zone in its center called H zone.

A.A band shows a lighter zone in its center called H zone.

B.A band contains only myosin filaments.

C.A band is devoid of any filaments.

D.A band contains only actin filaments.

14. H zone consists only of thick myosin filaments. H zone is bisected by a dark line called M line where myosin filaments are attached.

A.H zone consists of both actin and myosin filaments.

B.H zone contains thin actin filaments only.

C.H zone consists only of thick myosin filaments.

D.H zone is bisected by a dark line called I line in which actin filaments are attached.

answers:

1.C It is mesodermal in origin.
2.A •Skeletal muscle, •Cardiac muscle, •Smooth muscle
3.C Skeletal muscle exhibits cross striations at light microscope level (striated).
4.D Skeletal muscle contraction is usually voluntary and under the control of will.
5.C Shape: long and cylindrical, non-branching except in the muscles of the face and tongue.
6.D Epimysium, Perimysium, Endomysium
7.D Each muscle fiber is surrounded by a cell membrane called sarcolemma, associated from outside by a basal lamina.
8.C They are stem cells and responsible for the repair of small defects of the skeletal muscles by formation of new muscle fibers.
9.D Myofibrils, sarcoplasmic reticulum (SER), long mitochondria.
10.A Each muscle fiber contains a plenty of long, cylindrical myofibrils which run parallel to the long axis of the muscle fiber.
11.B I band contains only actin filaments attached to Z line.
12.C Z line is mainly formed by α -actinin and desmin proteins.
13.A A band shows a lighter zone in its center called H zone.
14.C H zone consists only of thick myosin filaments.