SKELETAL MUSCLE HISTOLOGY

Structure *(Use with L1 p178)*

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a. Definition: sheet of fibrous connective tissue (CT) that encloses a muscle

b. Location: (label #79)

*MAY project beyond muscle and form a cord-like tendon or intertwine with periosteum*

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a. Definition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of CT surrounding a skeletal muscle

b. Location: (label #77)

3. Muscle \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [pl. fasciculi]

a. Definition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of skeletal muscle fibers (\_\_\_\_\_\_\_\_\_\_\_\_\_) in small

compartments

b. Location: (label #71 & #78)

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a. Definition: sheath of CT that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of muscle fibers

b. Location: (label #74)

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (muscle fiber) (aka: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!)

a. Definition: a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that contracts/relaxes in response to stimulation

b. Location: (label #70 & #72)

c. Structure of cell

1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (label #66 and see “A”)

a) Definition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) Structure: invaginations of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

( see “C” )

2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (label #67 )

a) Definition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of muscle cell

b) contains small, oval nuclei and mitochondria and myoglobin ( see“D”)

c) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ similar to hemoglobin; stores O2 for mitochondrion

3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (SR) ( see“B” )

a) Definition: membranous \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and tubules w/i a

muscle fiber

b) Function: together with T-tubules, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a) Definition: sheath of CT that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) Location: (label #73 & 75)

5) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

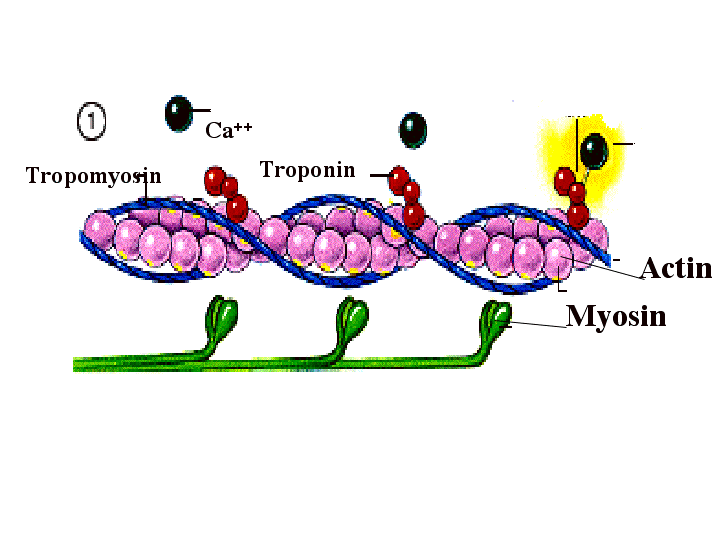
a) Definition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) Location: (label #68 and see “E”)

c) Structure

(1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ( see”H-1” )

(a) Definition: a protein in combination with actin

contracts and relaxes muscle fibers

(b) Location:

(c) Structure: resembles golf club with end called heads

that binds to actin to form crossbridges

(2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ( see “G-1” )

(a) Definition: a protein in combination with myosin

contracts and relaxes muscle fibers

(b) Location:

(c) Structure: resembles strands of pearls made of

troponin (provides Ca ++ binding site) and

tropomyosin (located along groove btw twisted

strands)

6) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ( see”F” )

a) Definition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

of a myofibril

b) extending from z-line to z-line ( see”F-1” )

c) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are dense areas of protein

7) striation pattern

a) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: ( see “G” )

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_, actin filaments, attached to z-line

b) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: ( see “H” )

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_, myosin filaments overlapping with thin actin filament

c) H- zone: ( see “J” )

* a narrow, light zone in center of sarcomere consisting of only myosin which is anchored at the M- line ( see “K”) in a dark-stained thickened band