

Lab 7

Muscle tissue and Nervous tissue


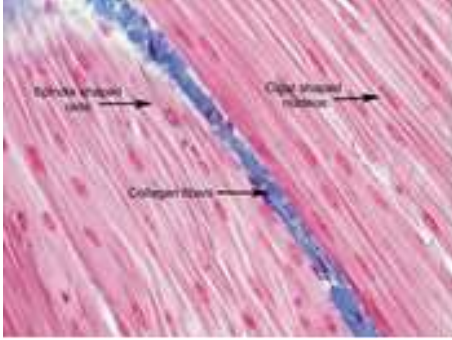

By

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Muscle tissue:

- Muscle (contractile) tissue is composed of differentiated cells called muscle fibers.
- Muscle fibers contain actin filaments and myosin filaments that are the contractile proteins.
- The cytoplasm of muscle cells is called sarcoplasm,
- cell membrane is sarcolemma or plasmalemma.
- Three types of muscle tissue in mammals can be distinguished on the basis of morphologic and functional characteristics, and each type of muscle tissue has a structure adapted to its physiologic role.

Table1. Comparison between muscle tissues

Differences	Skeletal muscle	Smooth muscle	Cardiac muscle
<p>1-Composition</p>	<p>Composed of bundles of very long, cylindrical, multinucleated cells that shows cross striations</p> 	<p>Composed of collection of fusiform cells that do not show striations, have central nucleus and they are uninucleated.</p> 	<p>Composed of elongated, branched, individual cells that lie parallel to each other, has cross striations, and at sites of end to end contact are the intercalated disks.</p> 
<p>2-Location</p>	<p>Skeletal system</p>	<p>Walls of internal visceral, hollow organs(stomach, intestine, bladder) respiratory, urinary, and reproductive systems. In the eyes, the ciliary muscles,)iris dilator muscle, and iris sphincter muscle In the skin, smooth muscle cells such as those of the arrector pili cause hair</p>	<p>Heart</p>
<p>3-Activity</p>	<p>Voluntary contraction</p>	<p>Involuntary contraction</p>	<p>Involuntary contraction</p>



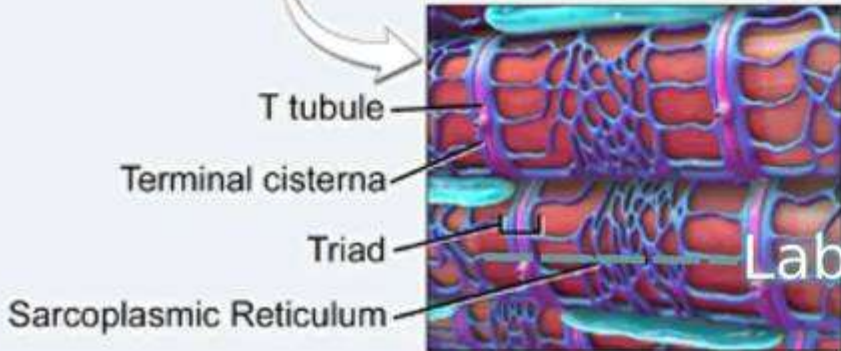
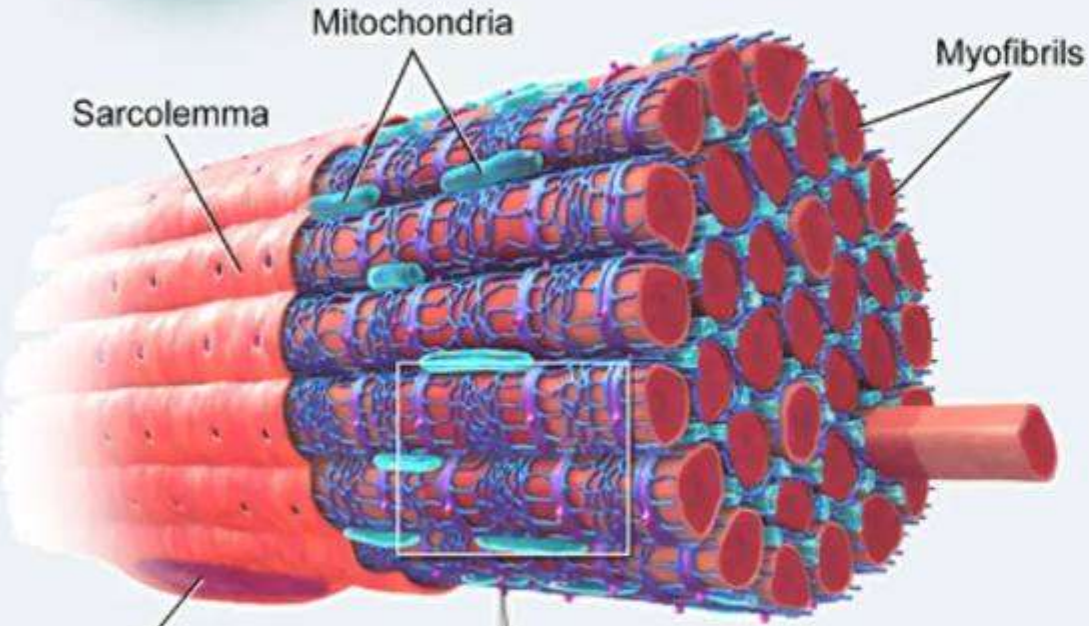
Skeletal Muscle Cells



Smooth Muscle Cells



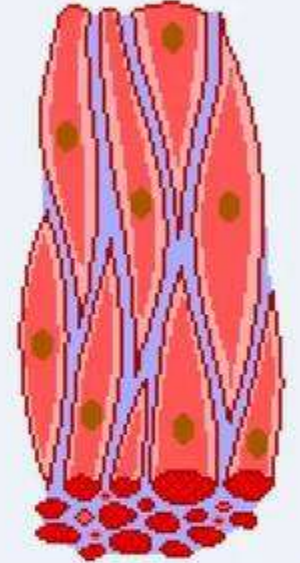
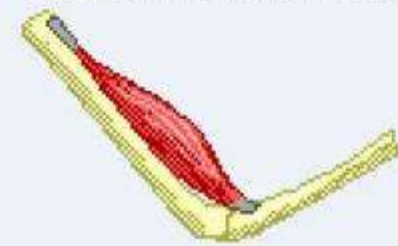
Cardiac Muscle Cells



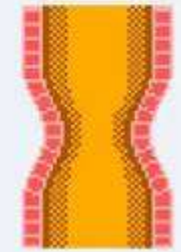
Cardiac Muscle

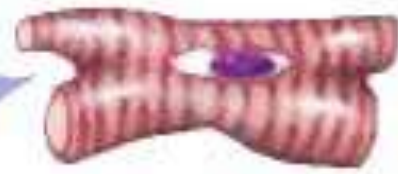
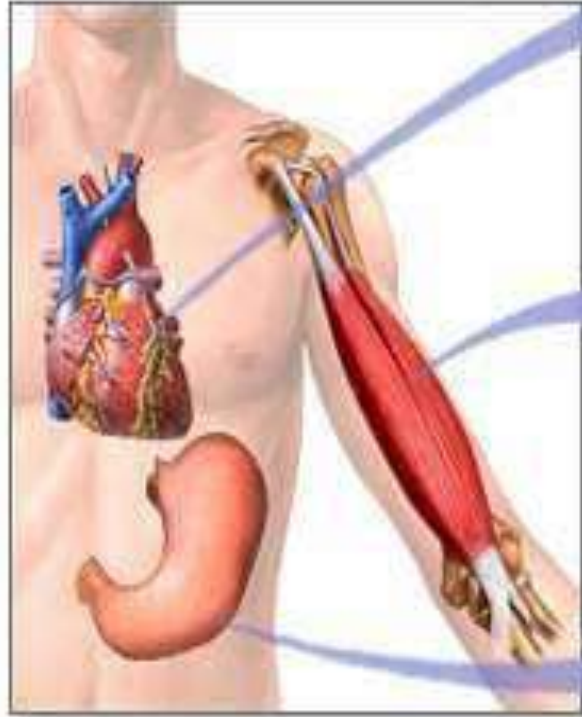


Skeletal Muscle



Smooth Muscle





Cardiac muscle cell

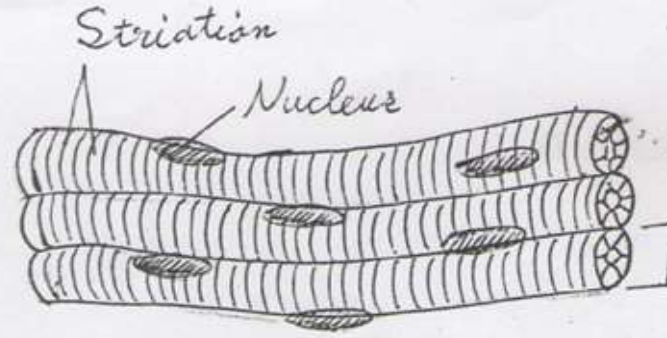


Skeletal muscle cell

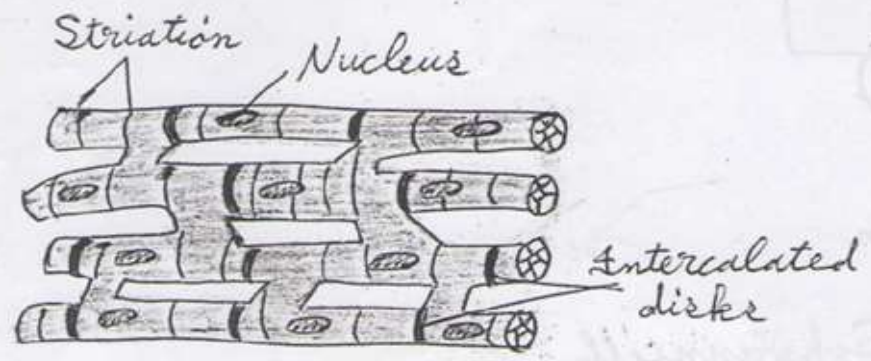


Smooth muscle cell

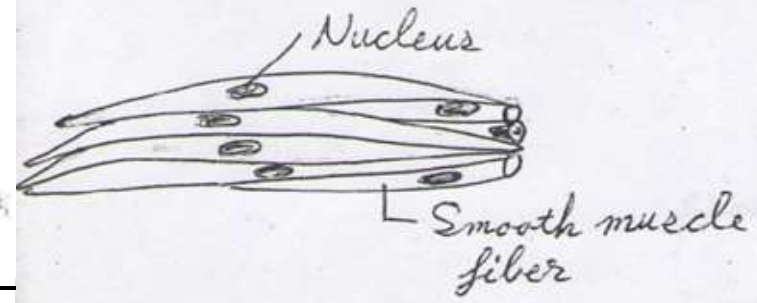
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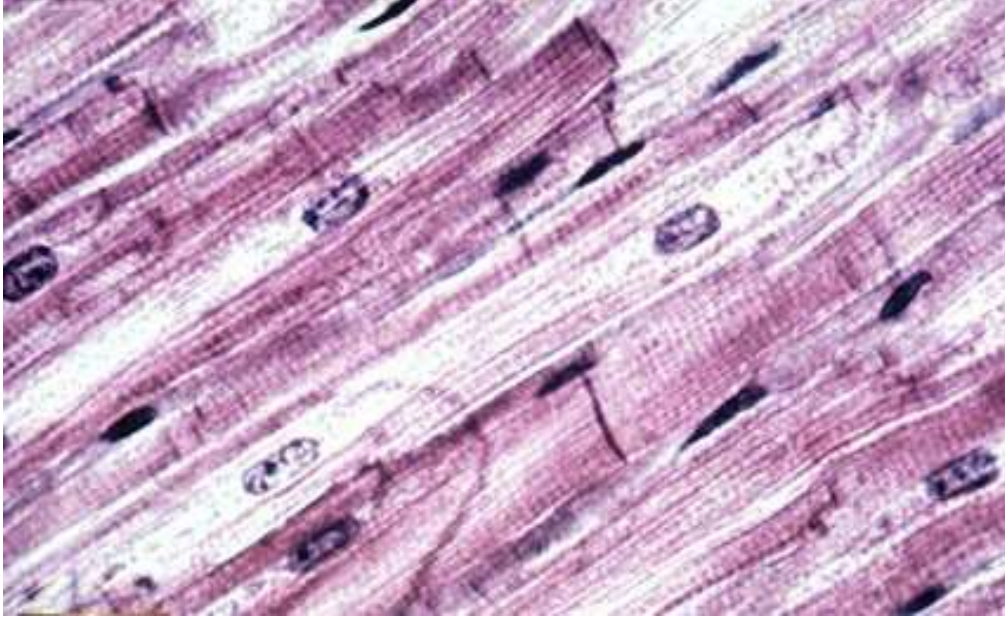
Skeletal muscle



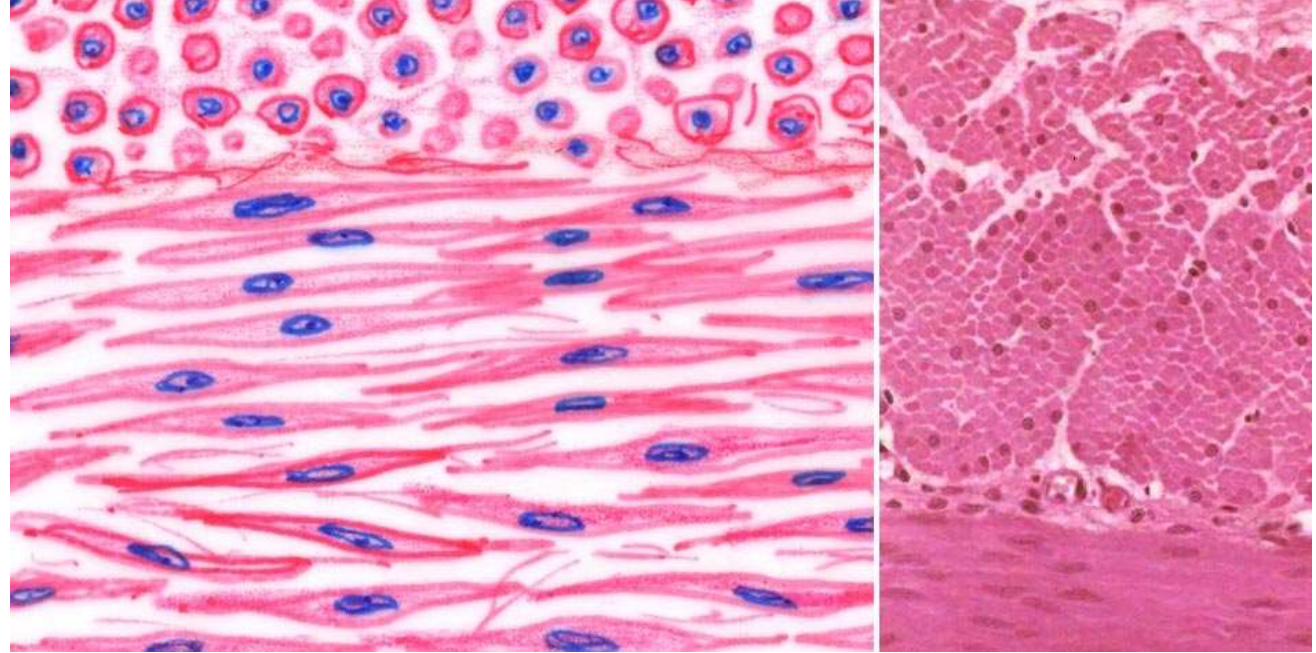
Cardiac muscle



Smooth muscle



Cardiac muscles



Smooth muscles