Vidya Bhawan Balika Vidyapeeth Lakhisarai

Arun Kumar Gupta

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Sub. Biology

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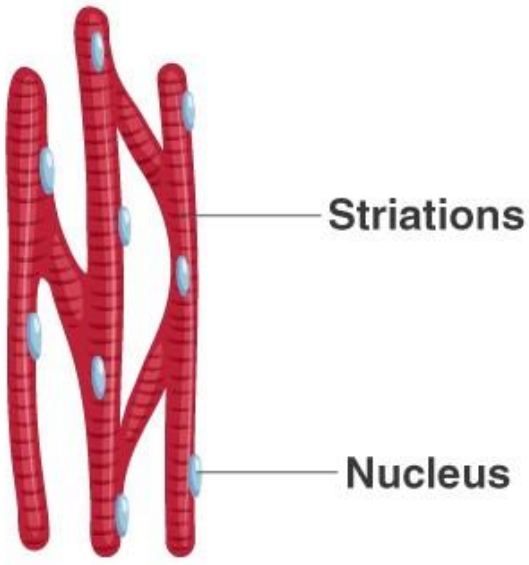
1. Diagrammatically show the difference between the three types of muscle fibres.

There are three types of muscle fibres, they are:

1. Cardiac muscles

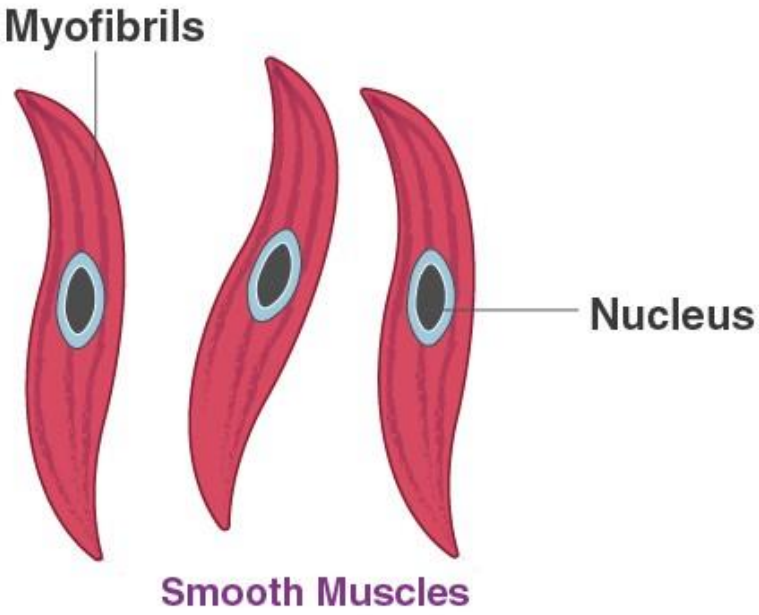
- Present in the heart.
- Involuntary in nature.
- They have 1 nucleus.
- The muscle fibers are branched.



Cardiac Muscles

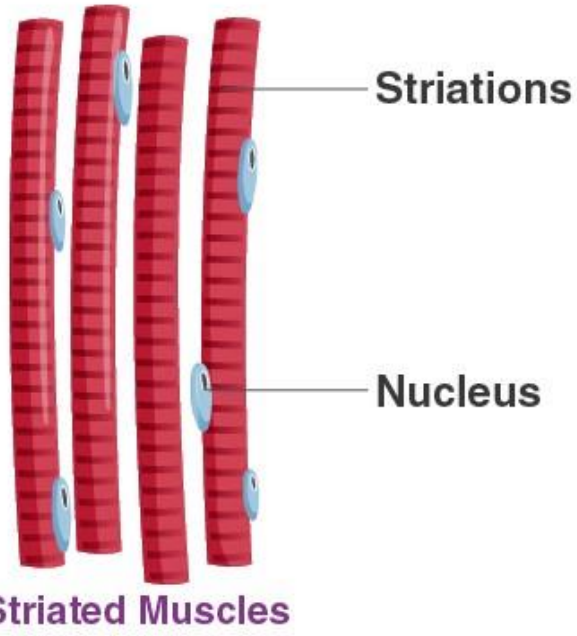
2. Smooth muscles

- Found in lungs and alimentary canal.
- Involuntary in nature.
- They have 1 nucleus.
- They are spindle shaped.



3. Striated muscles

- They are connected with bones
- Voluntary in nature.
- They are long and cylindrical muscle fibers.
- They possess many nuclei.
- Striated muscles are unbranched.



2. What is the specific function of the cardiac muscle?

The cardiac muscles are branched and cylindrical. They are uninucleated and are involuntary in nature. Throughout one's lifetime, the cardiac muscles bring about the rhythmic contraction and relaxation.

3. **Differentiate between striated, un-striated and cardiac muscles on the basis of their structure and site/location in the body.** Solution:

   The following are the differences between different types of muscles based on their structure and location in the body.

Character	Striated muscles	Un-striated muscles	Cardiac muscles
Shape/Structure	Long, cylindrical, non – tapering. They are un-branched.	Long and tapering. They are un – branched.	Cylindrical and non – tapering. They are branched.
Location in body	Hands, legs and skeletal muscles	Wall of stomach, intestine, ureter and bronchi	Heart
Dark and light bands	Present	Absent	Present but less prominent

4. **Draw a labelled diagram of a neuron.**

5. **Name the following.**
   (a) Tissue that forms the inner lining of our mouth.
   (b) Tissue that connects muscle to bone in humans.
   (c) Tissue that transports food in plants.
   (d) Tissue that stores fat in our body.
   (e) Connective tissue with a fluid matrix.
   (f) Tissue present in the brain.

   (a) Tissue that forms the inner lining of our mouth - The epithelial tissue, Squamous epithelium.
   (b) Tissue that connects muscle to bone in humans - Tendon
   (c) Tissue that transports food in plants - Phloem
   (d) Tissue that stores fat in our body - Adipose tissue
   (e) Connective tissue with a fluid matrix - Blood, it is a fluid connective tissue (f) Tissue present in the brain - Nervous tissue