



(files/images/front_muscles.jpg?1607699136061)

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Types and characteristics of muscle tissue

Types of muscle tissue

There are three main types of muscle tissue found in the human body:

- cardiac tissue
- smooth muscle tissue
- skeletal muscle tissue

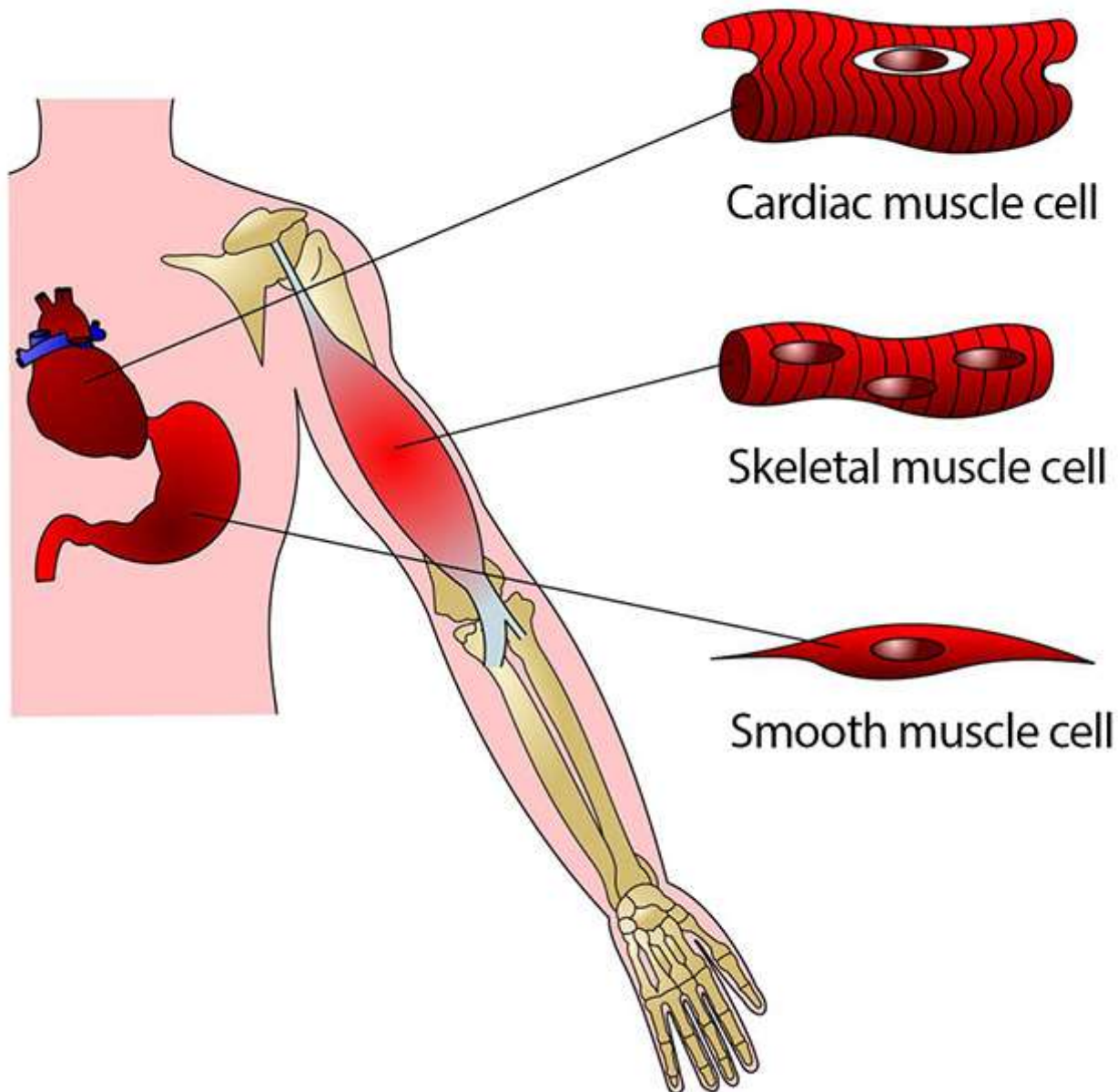
Cardiac muscle is found in the heart, and although it has some similarities to skeletal muscle, it is a specialised type of muscle tissue.

Smooth muscle is found in the walls of arteries and veins, in the bronchioles (in the lungs), and in the digestive tract. Both of these types of muscle tissue are under involuntary control of the autonomic nervous system, whereas skeletal muscle is under voluntary control.

Here, we are studying skeletal muscle.

Characteristics of muscle tissue

All types of muscle tissue share the following characteristics:



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Text

Cardiac muscle cell

Skeletal muscle cell

Smooth muscle cell

Excitability

Muscle tissue responds to stimuli from hormones or neurotransmitters and produces electrical signals called action potentials.

Conductivity

This is the ability of a cell to conduct action potentials along its plasma membrane.

Contractility

This is the ability of a muscle to shorten and thicken in response to an action potential. This is what creates skeletal muscular contraction.

Extensibility

All types of muscle tissue can extend and stretch. This allows the muscle in artery walls to stretch and accommodate increased blood flow, It allows cardiac tissue to expand when the chambers fill with blood, and It enables skeletal tissue to stretch when an opposing muscle is being contracted.

Elasticity

The elasticity of muscle tissue allows it to return to its original length and shape.

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Introduction to the muscular system - animated tutorial | Complete Anatomy (YouTube 2:22)