

Difference Between Areolar and Adipose Tissue

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Key Difference - Areolar vs Adipose Tissue

The [loose connective tissue](#) is a type of connective [tissue](#) which consists of a number of cell types embedded in a matrix. It contains a large amount of ground substance. The fibers are arranged in the loose connective tissue in loose irregular manner. They are responsible for binding various structures together like [muscle fibers](#) to muscle fibers and skin to underlying tissues. It also surrounds [blood vessels and nerves](#). [Fibroblast cells](#) are more common in loose connective tissue. The loose connective tissue has three types of fibers namely, collagenous fibers, elastic fibers, and reticular fibers. Loose connective tissue includes areolar tissue, reticular tissue, and adipose tissue. The **key difference** between Areolar and Adipose Tissue is, **areolar tissue fills inside space of organs and supports internal organs. On the other hand, the adipose tissue acts as a fat (energy) reservoir and an insulator of heat.**

What is Areolar Tissue?

The areolar tissue is a common type of loose connective tissue present in the body. It is the most widely distributed connective tissue in the [vertebrates](#). It does have significant open space due to fibers that are far apart. The open space is filled up with [interstitial fluid](#). It is strong enough to bind different tissues together and also soft enough to provide flexibility. It does show interlacing. Loosely arranged fibers, abundant blood vessels and empty spaces filled with interstitial fluid can be observed in this areolar tissue. The adjacent [epithelial tissue](#) gets the nutrients from the interstitial fluid of areolar tissue.

Lamina propria is a common areolar tissue in many locations in the body. The fibers in that run in random directions and are mostly collagenous in nature. However, there are also elastic fibers and reticular fibers along with them. The areolar tissue is highly variable when it comes to the appearance. In [serous](#) membranes, it appears as loosely arranged collagenous and elastic fibers having scattered cell types, ground substance, and numerous blood vessels. And in the skin and mucous membranes, it is more compact and extremely difficult to distinguish from the dense irregular connective tissue. The areolar tissue fills the space inside organs and supports internal organs.

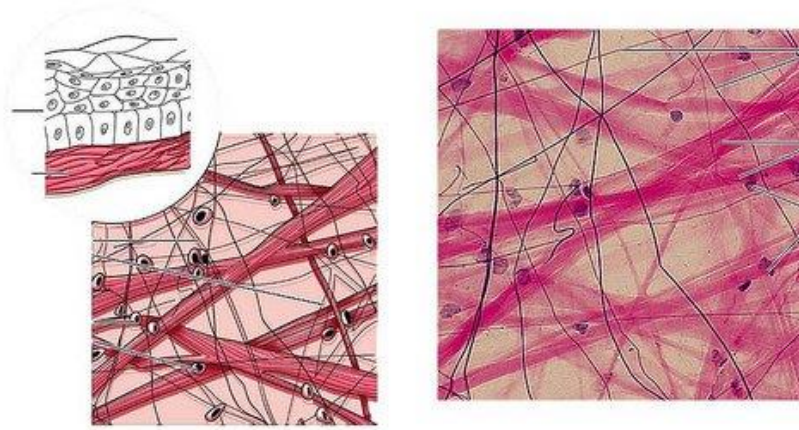
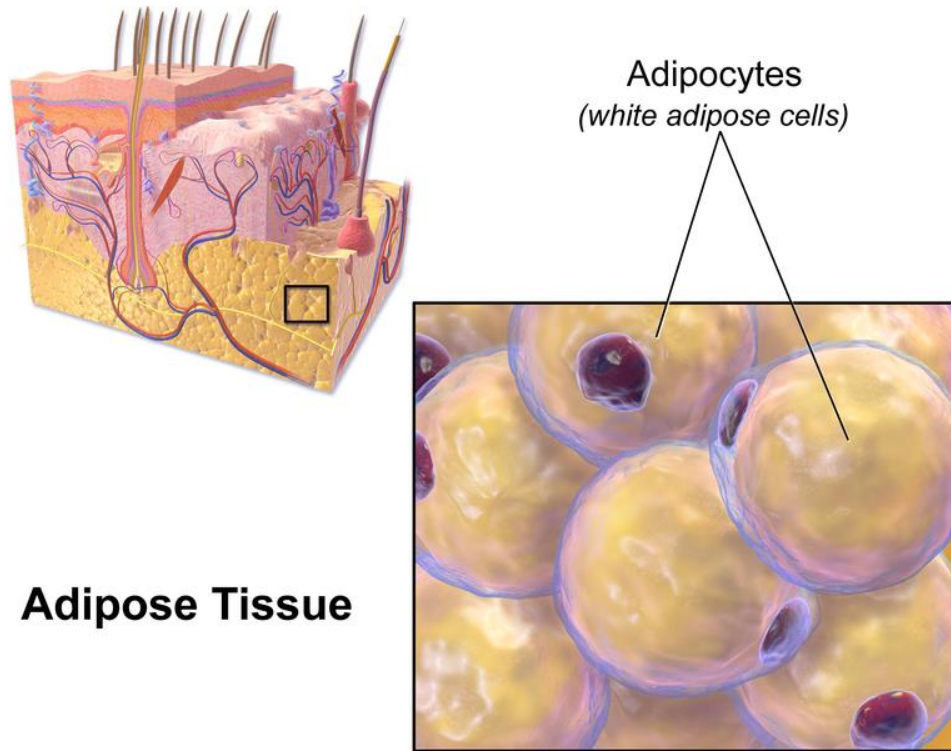


Figure 01: The Areolar Tissue

The main function of the areolar tissue is holding organs and it attaches the epithelial tissue to other underlying tissues. It provides support, strength, and elasticity. And most importantly the areolar tissue enables a higher degree of movement between adjacent body parts.

What is Adipose Tissue?

It is a loose connective tissue which consists a 'f' similar type of cells known as adipocytes. The adipose tissue usually concerned with storage of fats. It is found below the skin and between the organs in the body. The adipose tissue is a fat reservoir and a heat insulator. Apart from that, the adipose tissue has a stromal vascular fraction of cells such as; preadipocytes, [fibroblasts](#), vascular endothelial cells, and variety of immune cells like [macrophages](#).



Adipose Tissue

Figure 02: The Adipose Tissue

The adipose tissue is derived from the preadipocytes cells. Its main role is to store energy in the form of [fats and lipids](#). It also acts as an endocrine organ. There are two types of adipose tissues: white adipose tissue and brown adipose tissue. White adipose tissue stores energy and brown adipose tissue generates heat.

What are the Similarities Between Areolar and Adipose Tissue?

- Both are types of loose connective tissues.
- Both give strength to the body.
- Both protect the body.
- Both contain fibroblasts and macrophages.

What is the Difference Between Areolar and Adipose Tissue?

Areolar vs Adipose Tissue	
Areolar tissue is a loose connective tissue that is made up of several different types of cells such as	Adipose tissue is a loose connective tissue that is made up of mostly by a

fibroblasts, mast cells, plasma cells, and macrophages.	similar type of cells called as adipocytes.
Location	
Areolar tissue is found in between skin and muscles, around blood vessels and nerves. And in the bone marrow.	Adipose tissue is found below the skin and between internal organs.
Function	
Areolar tissue fills inside space of organs and supports internal organs.	Adipose tissue acts as a fat (energy) reservoir and an insulator of heat.
Shape of the Cells	
The cells in areolar tissue have different shapes.	The cells in adipose tissue are mainly spherical or oval.
Distribution	
Areolar tissue is the most widely distributed connective tissue in the body.	Adipose tissue is less common connective tissue compared to Areolar tissue.
As a Hormonal Organ	
Areolar tissue does not act as a hormonal organ.	Adipose tissue does act as a hormonal organ
As a Heat Insulator	
Areolar tissue does not act as a heat insulator.	Adipose tissue does act as a heat insulator.

Summary - Areolar vs Adipose Tissue

The loose connective tissue includes the areolar tissue, reticular tissue, and adipose tissue. The loose connective tissue is the most common type of connective tissue in the vertebrates. It holds organs while also serving as an energy storage function and heat insulator function. It has collagen fibers, elastic fibers, and reticular fibers. The fibers are arranged in a loose irregular manner in the loose connective tissue. The loose connective tissue also has different types of cells like plasma cells, mast cells,

macrophages and more commonly fibroblasts. Areolar tissue is a loose connective tissue that is made up of several different types of cells such as fibroblasts, mast cells, plasma cells, and macrophages. Adipose tissue is a loose connective tissue that is made up of mostly by a similar type of cells called as adipocytes. This is the difference between Areola and Adipose tissue.

Reference:

1. "Adipose tissue." Wikipedia, Wikimedia Foundation, 13 Dec. 2017. [Available here](#)
2. "Loose connective tissue." Wikipedia, Wikimedia Foundation, 19 Dec. 2017. [Available here](#)

Image Courtesy:

1. 'Areolar' by Brittany ([CC BY 2.0](#)) via [Flickr](#)
2. 'Blausen 0012 AdiposeTissue' By Blausen.com staff (2014). "Medical gallery of Blausen Medical 2014". WikiJournal of Medicine 1 (2). DOI:10.15347/wjm/2014.010. ISSN 2002-4436. - Own work, ([CC BY 3.0](#)) via [Commons Wikimedia](#)

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