

Collagen Types



PLAY PICMONIC

Type I

Dermis

Deer-mouse

Type I Collagen is found in all dermal layers. In addition, Type III Collagen, can also be seen within the adventitial dermis (including the papillary and the peri-adnexal dermis).

Cornea

Corn-eyes

Type I Collagen is the primary collagen that is found in the cornea.

Bone

Bone

Type I Collagen is found in over 90% of all types of collagen in the body. In addition to the Dermis and Cornea, Type I Collagen has been identified in Bone where it provides it with its tensile strength. Osteogenesis Imperfecta is a disorder that is associated with a Type I collagen mutation.

Late Wound Repair

Bandaged Wounds (Delayed)

Type I Collagen is involved in wound repair. Here, it contributes to scar tissue, and it's the end product of wound healing.

Tendons

Tendon

Tendons are composed of multi-hierarchical structures, including fibers (primary bundles), fascicles (secondary boundless), and fibrils. It is made up primary of Type I Collagen (60–80%) and Elastin (2%).

Type II

Vitreous Humor

Fit-tree

Type II Collagen composes about 80% of total collagen found in the Vitreous Humor.

Cartilage

Cartilage-cart

Cartilage is primarily made up of Type II Collagen.

Nucleus Pulposus

Nuclear-pulp

The Nucleus pulposus is mainly formed from water (66%-86%) and Type II Collagen.

Type III

Lymphatics

Lymphatic-guy Lymph-lime

The Lymphatics are formed by Type III Collagen.

Bone Marrow

Bone Arrow

The Bone Marrow is formed by Type III Collagen.

Early Wound Repair

Bandaged Wounds (Early)

Type III Collagen is found in granulation tissue and begin the process of early wound repair that is laid out by young fibroblasts. Don't forget, late wound repair is replaced with Type I Collagen.

Blood Vessels

Blood Vessels

Type III Collagen makes up blood vessels as well. A disorder that is associated with a Type III collagen mutation is the Vascular type of Ehlers-Danlos Syndrome. Mutations in COL3A1 result in faulty collagen synthesis results in patients with hyper-extending skin, hyper-mobile joints, and increased bleeding secondary vessels that are prone to rupture.

Type IV

Basement Membrane

Basement

Type IV Collagen makes up basement membranes of various tissues. A disorder that is associated with Type IV Collagen mutation is Alport Syndrome. Here, mutations cause defective collagen synthesis, resulting in irregular thinning and thickening of the various basement membranes of tissues commonly seen in the glomerulus of the kidneys. Patient's maybe have Sensory blindness, deafness, and glomerulonephritis.

Lens

Lens

The lens is formed by Type IV Collagen. Alport syndrome is one of the collagen disorders that is impacted by a Type IV collagen defect. As noted above, patient can develop anterior lenticonus and posterior cataracts.