

Chapter 2: The Integumentary System

Regions of the Skin

There are three major regions of the skin: epidermis, dermis and hypodermis.

Epidermis

The epidermis is the protective part of the skin. It contains many layers of cells. The outer layers are dead cells. Keratin is a molecule that makes the skin tough and waterproof. Melanin is a molecule that protects the skin from the sun and gives the skin color.

Dermis

The dermis is comprised of connective tissue. This connective tissue contains cells, plus three kinds of protein fibers: collagen (gives the skin strength) elastin (allows skin to stretch) and reticular fibers (holds tissue together). The dermis also contains many accessory organs: sweat glands to regulate body temperature, sebaceous glands to keep the skin soft and moist, sensory receptors to feel a specific stimulus, nerves to send messages to and from the skin, nails for picking up things, and hair to keep the skin warm.

Hypodermis

The hypodermis is comprised of adipose (fat) tissue. The function of adipose is to protect the body's organs. The thickness of the hypodermis depends on genetics and amount of diet and exercise. People whose ancestors come from hot climates have a thinner hypodermic layer than people whose ancestors come from cold climates.