

## GLOSSARY

**Epidermis:** The visible, outermost layer of the Skin. The other layers are the Dermis and the Hypodermis.

**Dermis:** The middle layer of the skin. Thick, fibrous, and stretchy, it is composed mainly of connective tissue. It supports the Epidermis.

**Hypodermis:** The bottom layer, it is the fatty, insulating, and energy-storing layer of the skin.

**Stratums :** (Sub-layers of the Epidermis): The Epidermis is made up of 5 further sub-layers, all of which are made up of skin cells.

**Stratum Basale:** The bottom layer of the Epidermis, where cells are born.

**Stratum Spinosum:** The layer above the Stratum Basale, where cells connect to each other with desmosomes.

**Stratum Granulosum:** The next layer, above the Stratum Spinosum, where cells harden (the first steps for keratin production begins) and start to die.

**Stratum Lucidum:** A layer only found in thick skin, it lies under the Stratum Corneum. The cells here are dead, translucent, and flat, and also lack their nuclei.

**Stratum Corneum:** The topmost layer of the Epidermis. Here the cells are dead, overlapping and shedding. Also known as the "horny layer" because cells are hard, like in an animal's horn.

**Keratinocytes:** The skin cells in the epidermis that become harder with the production of Keratin. These cells are known as being "keratinized" (hardened).

**Keratin:** A protein that gives the cells in our hair, skin, and nails (as well as in other animals) their toughness.

**Corneocytes:** These are Keratinocytes that have undergone "cornification" (programmed cell death before being eventually shed by desquamation). These cells are known as "cornified" (horny).

**Desquamation:** The process of shedding of dead skin cells in the Stratum Corneum.

**Merkel Cell:** A cell found in the Stratum Basale that senses touch.

**Langerhans Cell:** A cell found mainly in the Stratum Spinosum that "eats" old keratinocytes. It is a cutaneous immune cell, as it is part of our Immune System. (Cutaneous means related to the skin)

**Melanocyte:** A cell found in the Stratum Basale that produces melanin. Melanocytes are also found in the eye.

**Melanin:** A pigment produced by melanocytes that gives our skin and hair their colour, and protects us from UV rays (mainly from the sun).

**Pathogens:** Any harmful organisms that can cause disease (ex. bacteria, viruses, fungi.)

**Mitosis:** The process by which most cells in your body replicate to make new, identical cells, also called Cell Division or cell replication. (Not to be confused with DNA Replication, which is the process where DNA is copied).

**Mutation:** A unintended, unwanted change in the genetic code of our cells. Mutations in skin cells can be caused by UV rays.

**Skin Microbiome:** The collection of beneficial microbes that live on our skin. These are not pathogens, as they are not harmful to us.

**Tissue:** A grouping of similar cells that share a common function, and, depending on the type of tissue, also with fluid and fibres in between the cells. There are several different types of tissue. Connective tissue (found in the dermis and elsewhere in the body), and epithelial tissue (the epidermis, and elsewhere in the body) are 2 examples.

**Sensory Receptor:** A structure capable of sensing touch, temperature, vibrations, and more, depending on its type. Found in numerous places in the skin.

**Musculoskeletal System:** The system comprised of the muscles and the bones, located underneath the hypodermis.

**Hair Follicle:** Your hair grows from inside your skin. For this non-visible part of your hair that is inside your skin, the epidermis extends downwards to envelop the hair itself. This is what a hair follicle is - a skin envelope around the hair.

**Desmosome:** In epithelial tissue, a desmosome is a "bridge" that connects cells together. In the skin, they mainly form in the Stratum Spinosum, to connect Keratinocytes together.

**Keratohyalin Precursor Protein** (or simply known as **Keratohyalin**): When Keratin is made, there are a couple of steps to the process. First, there is Keratohyalin. Keratohyalin is present in the Stratum Granulosum. It gets turned into eleidin, which gives the Stratum Lucidum its translucent appearance, and finally eleidin gets turned into Keratin in the Stratum Corneum. Keratohyalin is found in the form of granules in the Stratum Granulosum (hence its name), and also helps to connect keratin fibres in keratinocytes to make them harder.

**Melanosome:** A small "package" that contains melanin, transferred from the melanocyte to the surrounding skin cells, which gives the skin a darker colour.

**Protein:** One of the 4 classes of biological macromolecules (large molecules); the others being Carbohydrates (sugars), Lipids (fats) and Nucleic acids (DNA and RNA). Proteins are made of chains of Amino acids, which in turn are organic compounds composed mainly of the elements Nitrogen, Carbon, Hydrogen, Oxygen and Phosphorous.