

Anatomy of the skin; the skin appendages

Skin anatomy

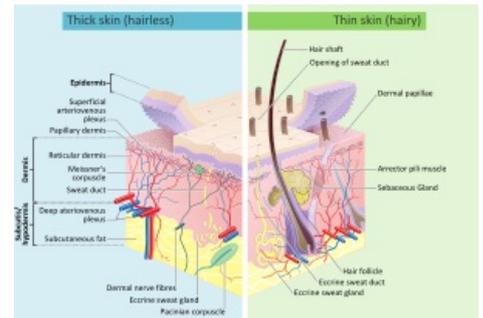
(A) Epidermis

1. Cell types

- Corneocytes (dead, anucleated keratinocytes)
- Keratinocytes
- Basal cells (stem cells for continuous production of keratinocytes)
- Melanocytes (production of melanin pigment)
- Langerhans cells (a type of dendritic cell characterized as antigen presenting cells - APCs)
- Merkel cells (mechanoreceptor nerve endings)

2. Layers

- **Stratum corneum:** the outermost layer of epidermis which consists of keratin filaments and corneocytes (dead, anucleated keratinocytes)
- **Stratum lucidum:** this layer is present only in thick skin such as palms and soles
- **Stratum granulosum:** this layer consists of keratinocytes that become flat and lose their nuclei
- **Stratum spinosum:** this layer consists of a bulk of keratinocytes and Langerhans cells and also contains the processes of melanocytes that extends from the stratum basale
- **Stratum basale:** this layer consist of basal cells, melanocytes and Merkel cells



Skin layers

(B) Dermis

1. Cell types

- fibroblasts
- macrophages
- mast cells

2. Layers

- Papillary dermis: this layer is composed of loose connective tissue and it is the junction between dermis and epidermis
- Reticular dermis: this layer is composed of dense connective tissue and contains all skin appendages along with blood and lymphatic vessels

Skin adnexal anatomy

(A) Pilosebaceous unit

- hair follicle
- sebaceous glands
- arrector pili muscles
- apocrine sweat glands (present only in axillae and groins)

(B) Eccrine sweat glands

(C) Nails