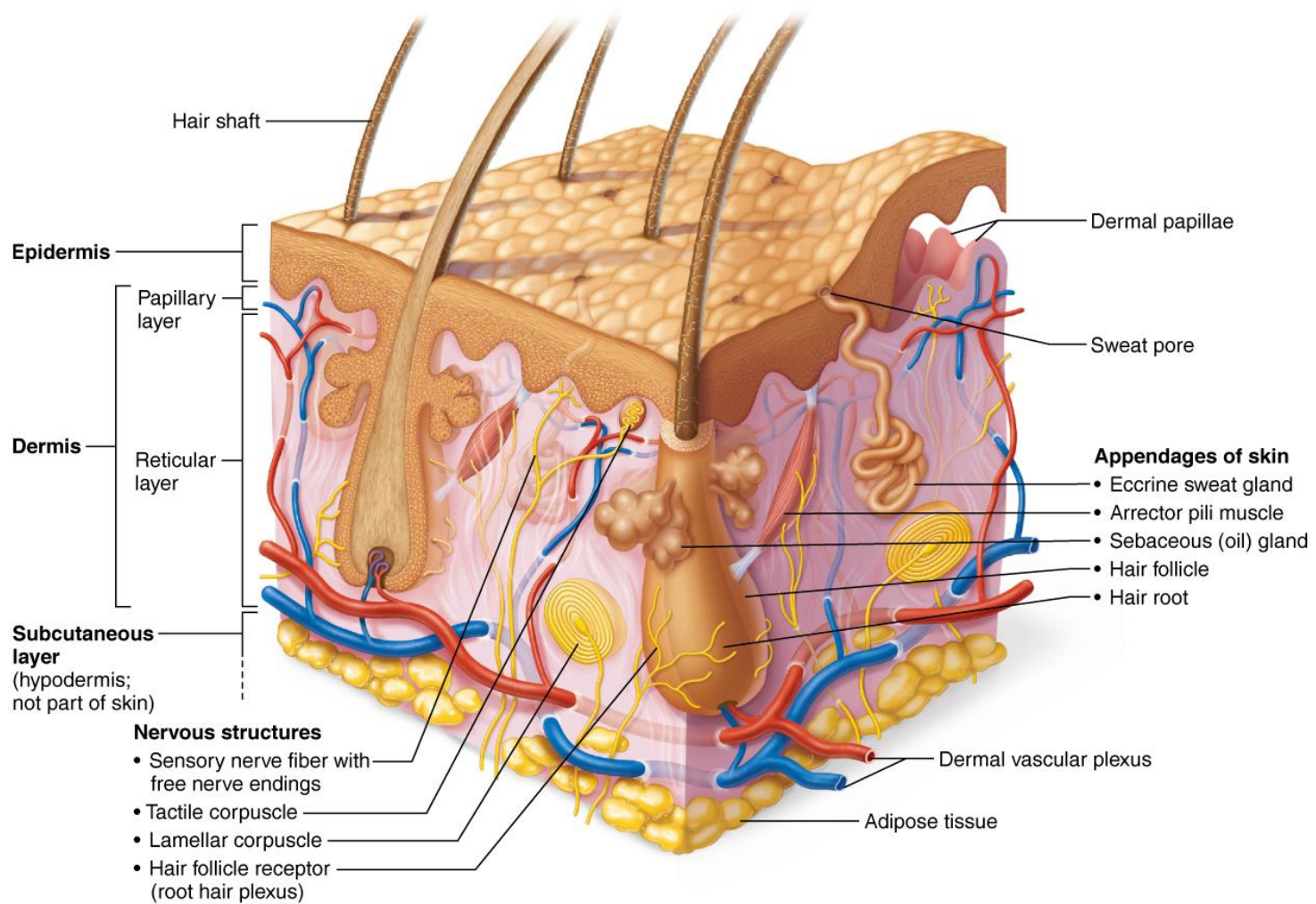
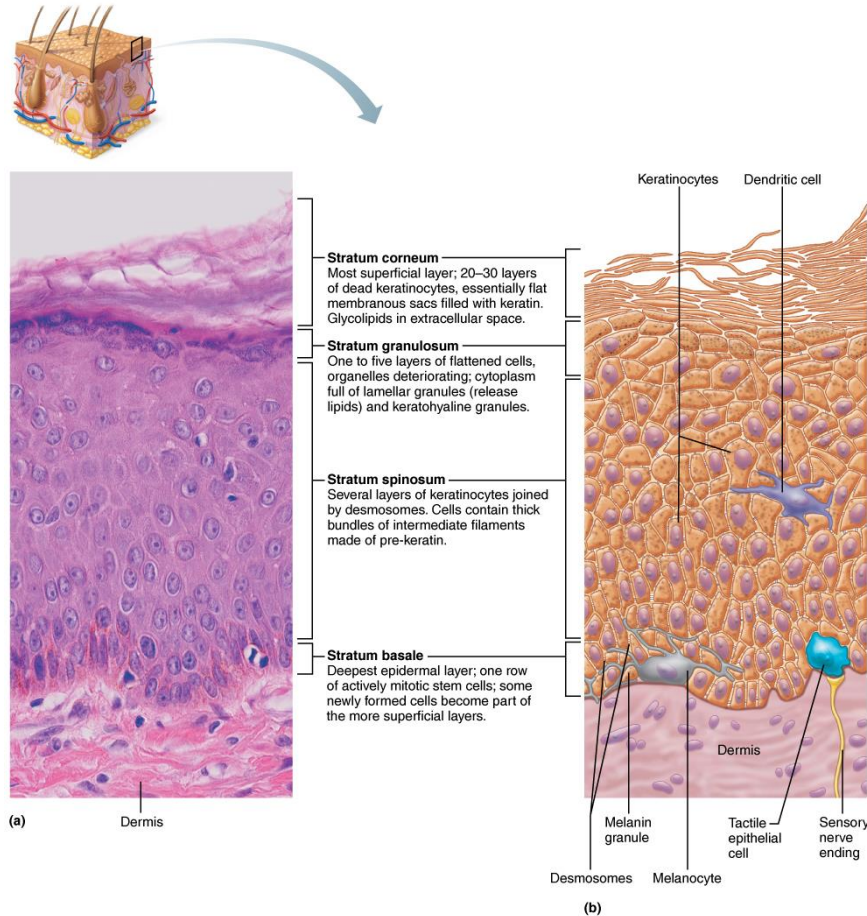


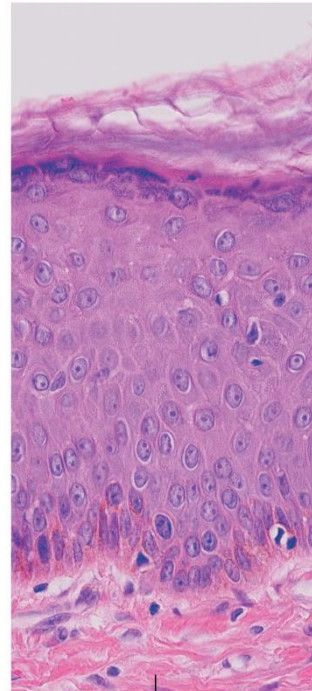
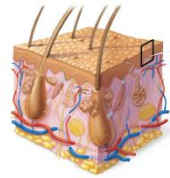
Skin Structure



The Main Structural Features in the Epidermis of Thin Skin (1 of 3)



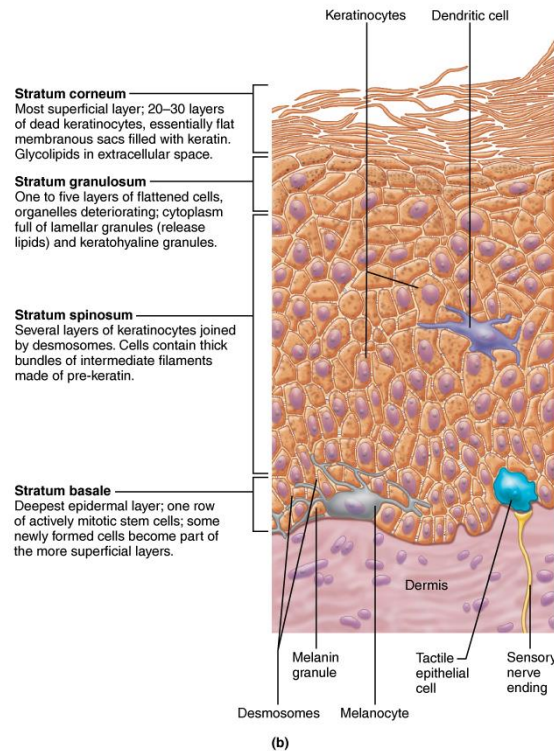
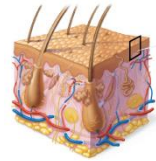
The Main Structural Features in the Epidermis of Thin Skin (2 of 3)



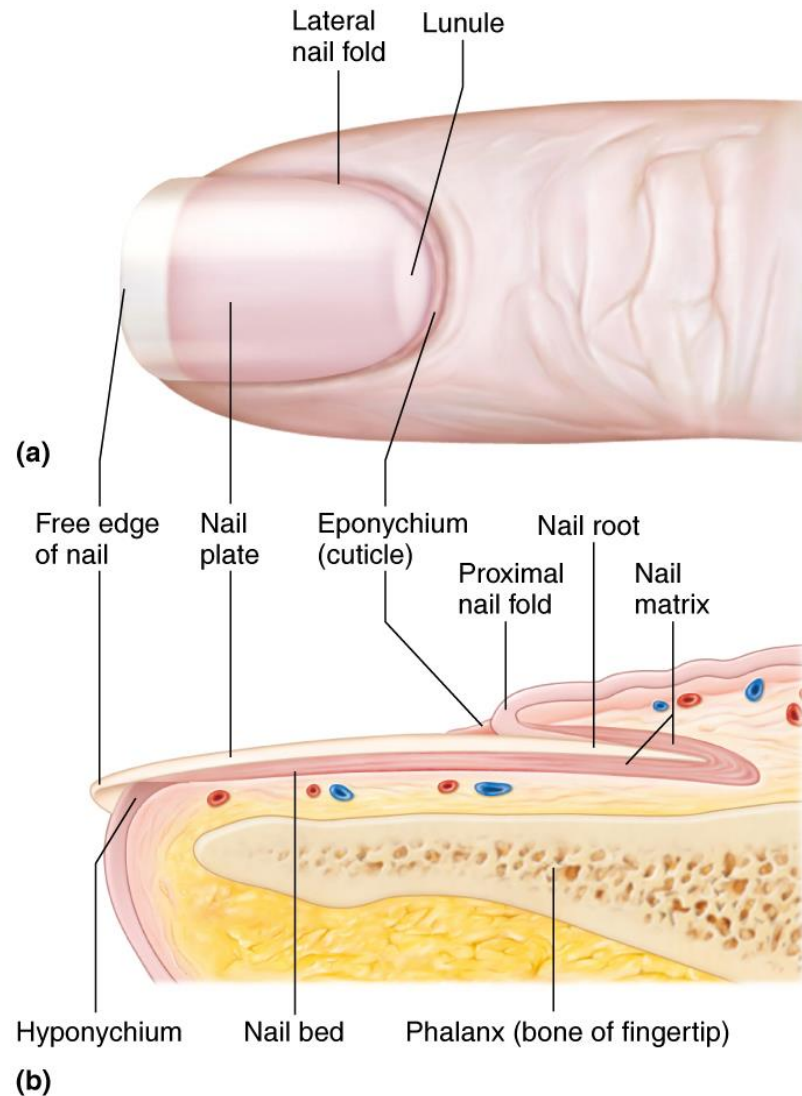
(a) Dermis

- Stratum corneum**
Most superficial layer; 20–30 layers of dead keratinocytes, essentially flat membranous sacs filled with keratin. Glycolipids in extracellular space.
- Stratum granulosum**
One to five layers of flattened cells, organelles deteriorating; cytoplasm full of lamellar granules (release lipids) and keratohyaline granules.
- Stratum spinosum**
Several layers of keratinocytes joined by desmosomes. Cells contain thick bundles of intermediate filaments made of pre-keratin.
- Stratum basale**
Deepest epidermal layer; one row of actively mitotic stem cells; some newly formed cells become part of the more superficial layers.

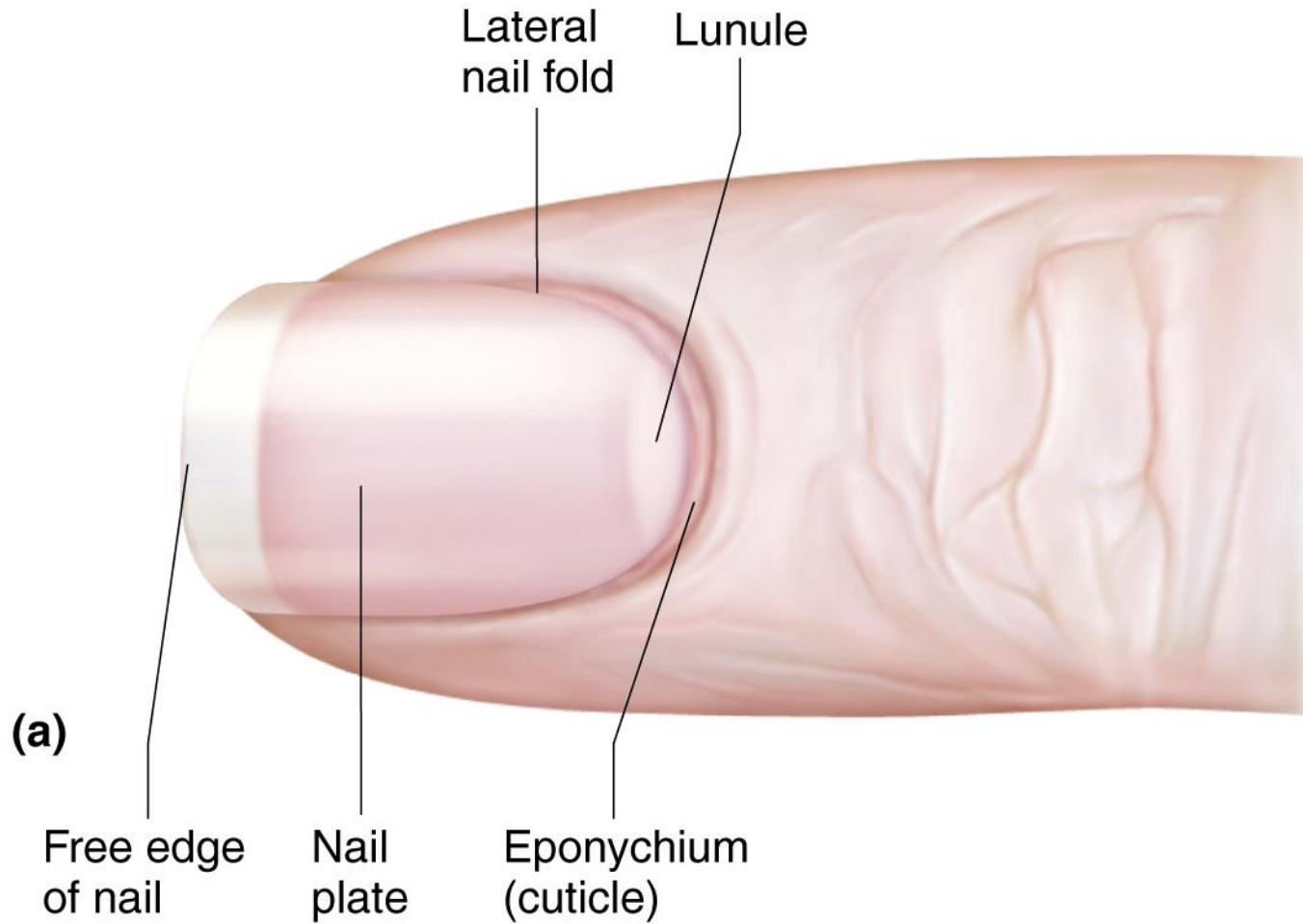
The Main Structural Features in the Epidermis of Thin Skin (3 of 3)



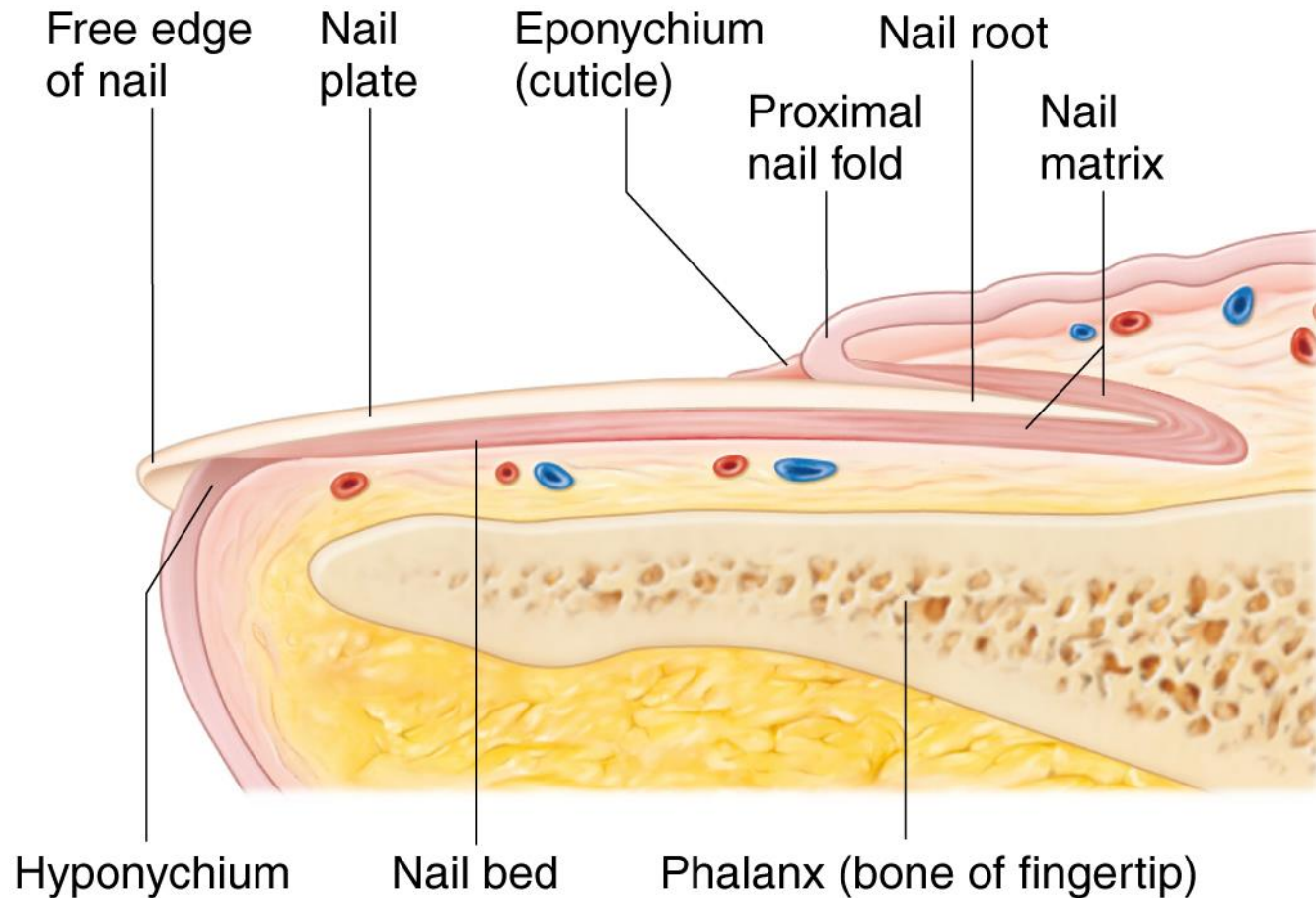
Structure of a Nail (1 of 3)



Structure of a Nail (2 of 3)



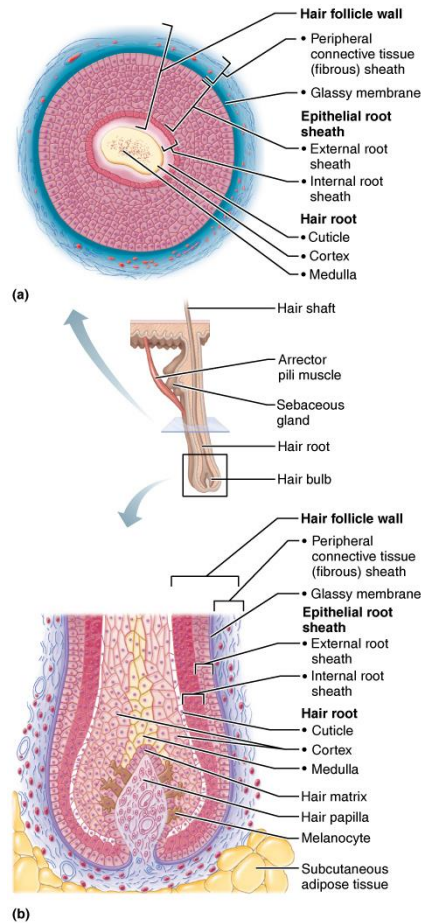
Structure of a Nail (3 of 3)



(b)

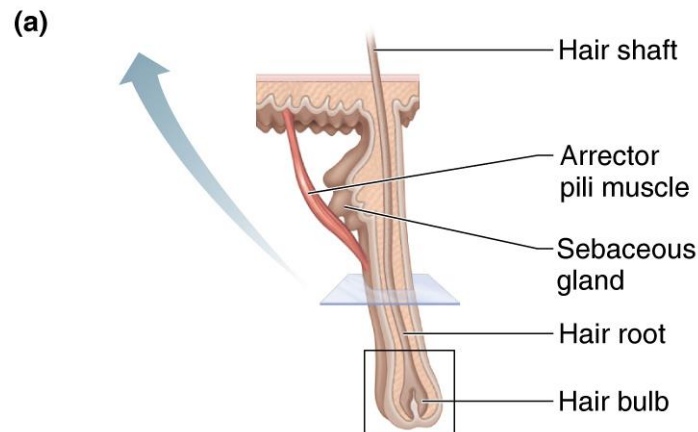
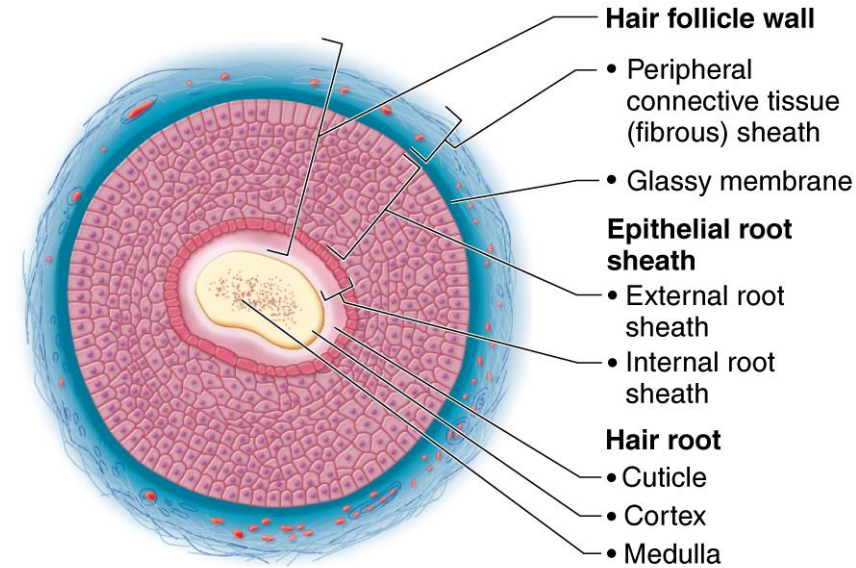
Structure of a Hair and Hair Follicle

(1 of 3)



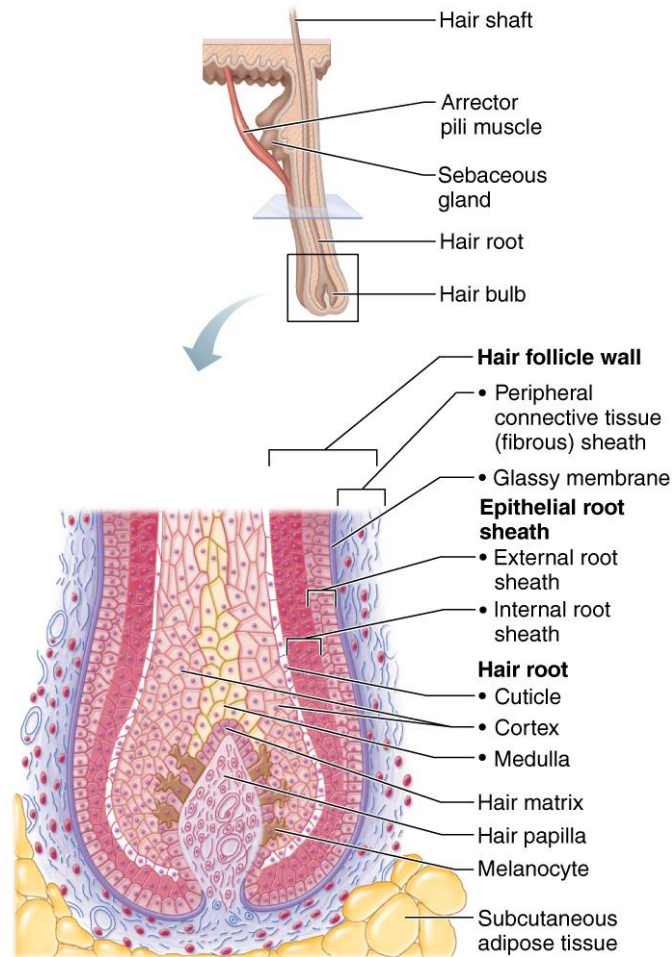
Structure of a Hair and Hair Follicle

(2 of 3)



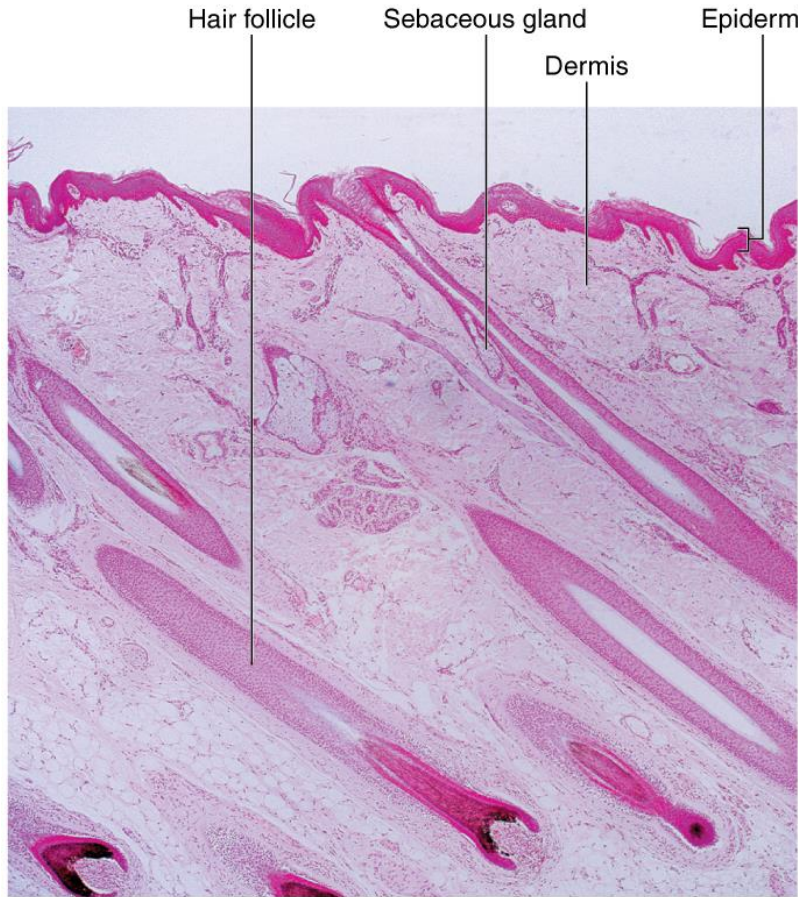
Structure of a Hair and Hair Follicle

(3 of 3)

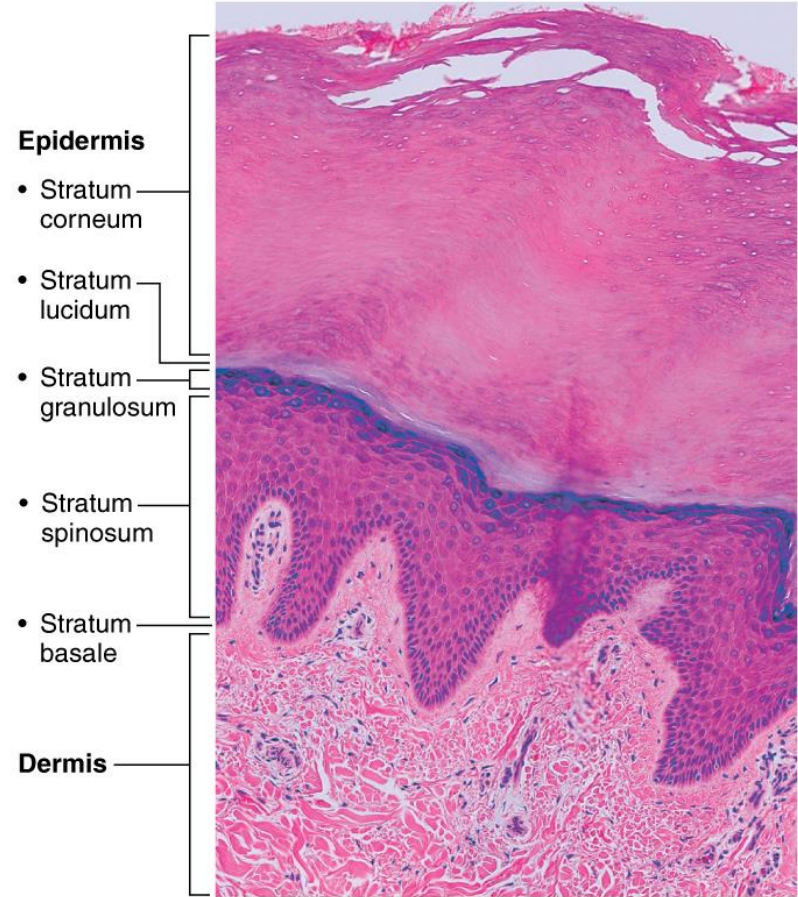


(b)

Photomicrographs of Skin (1 of 3)

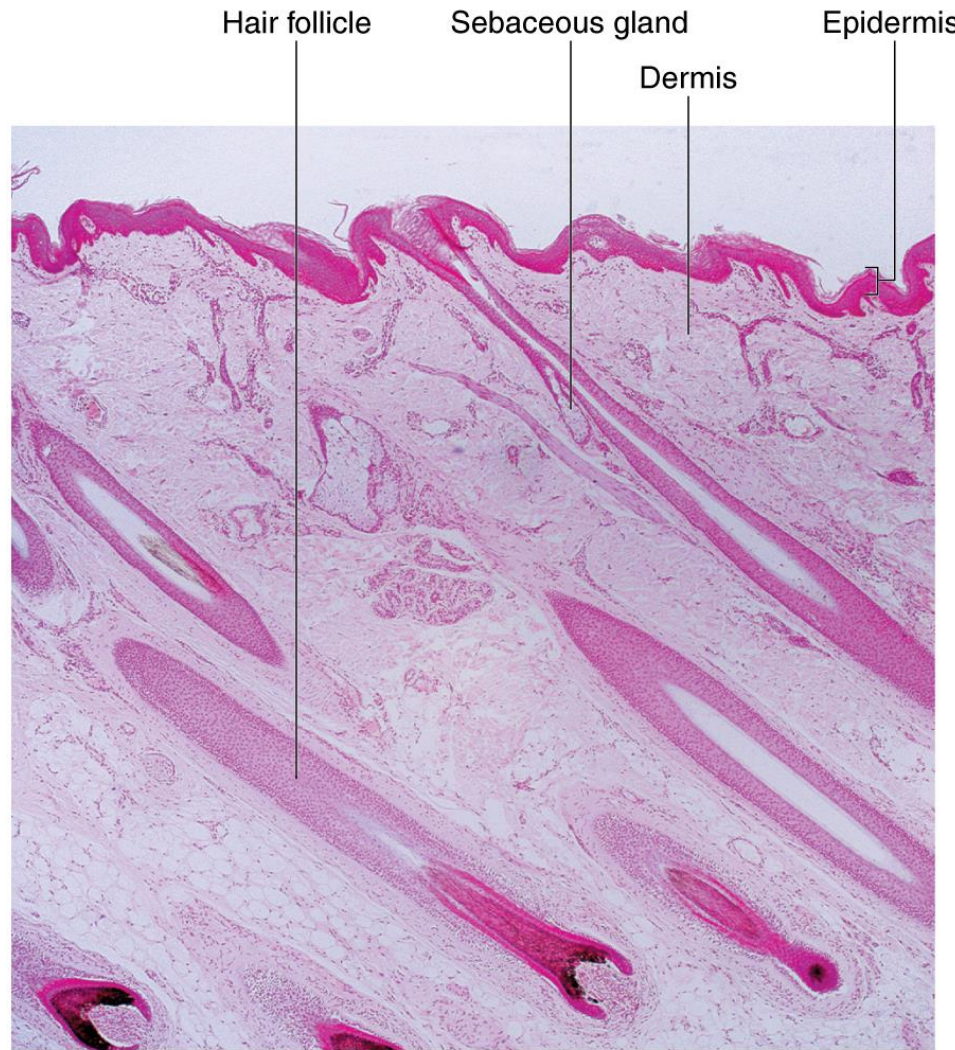


(a)



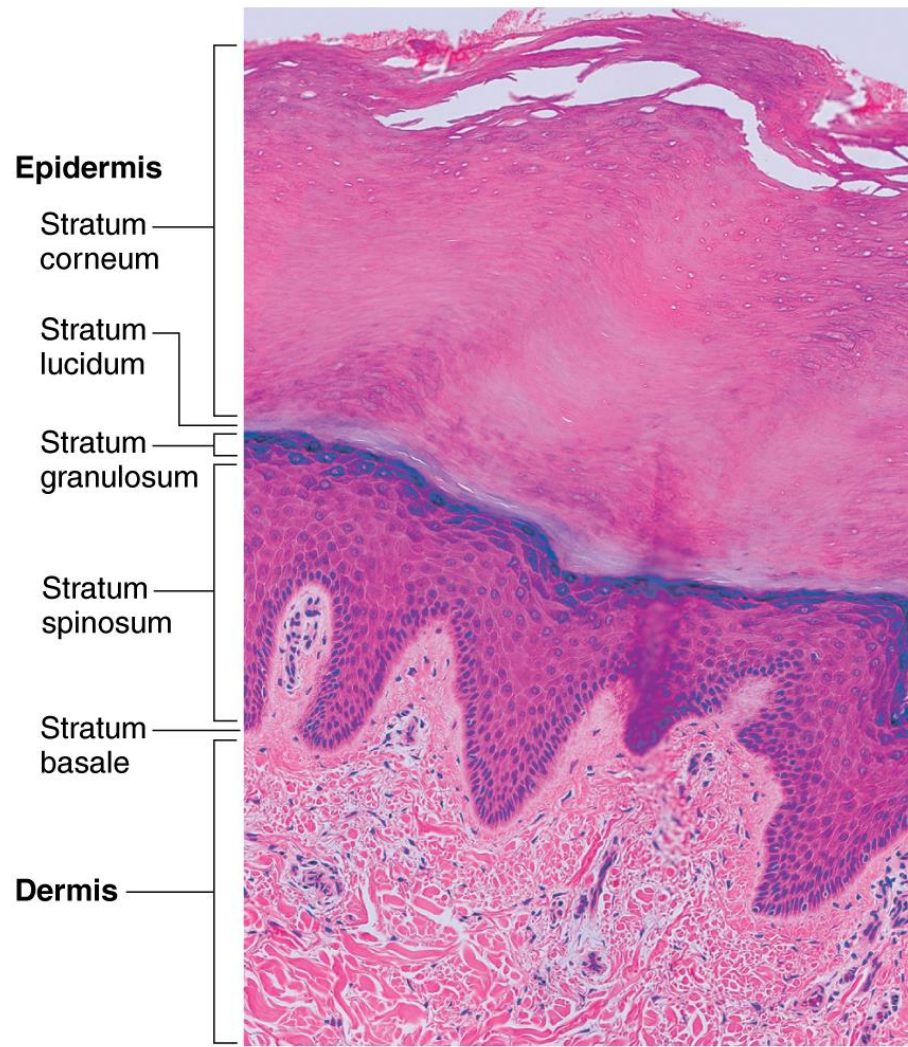
(b)

Photomicrographs of Skin (2 of 3)



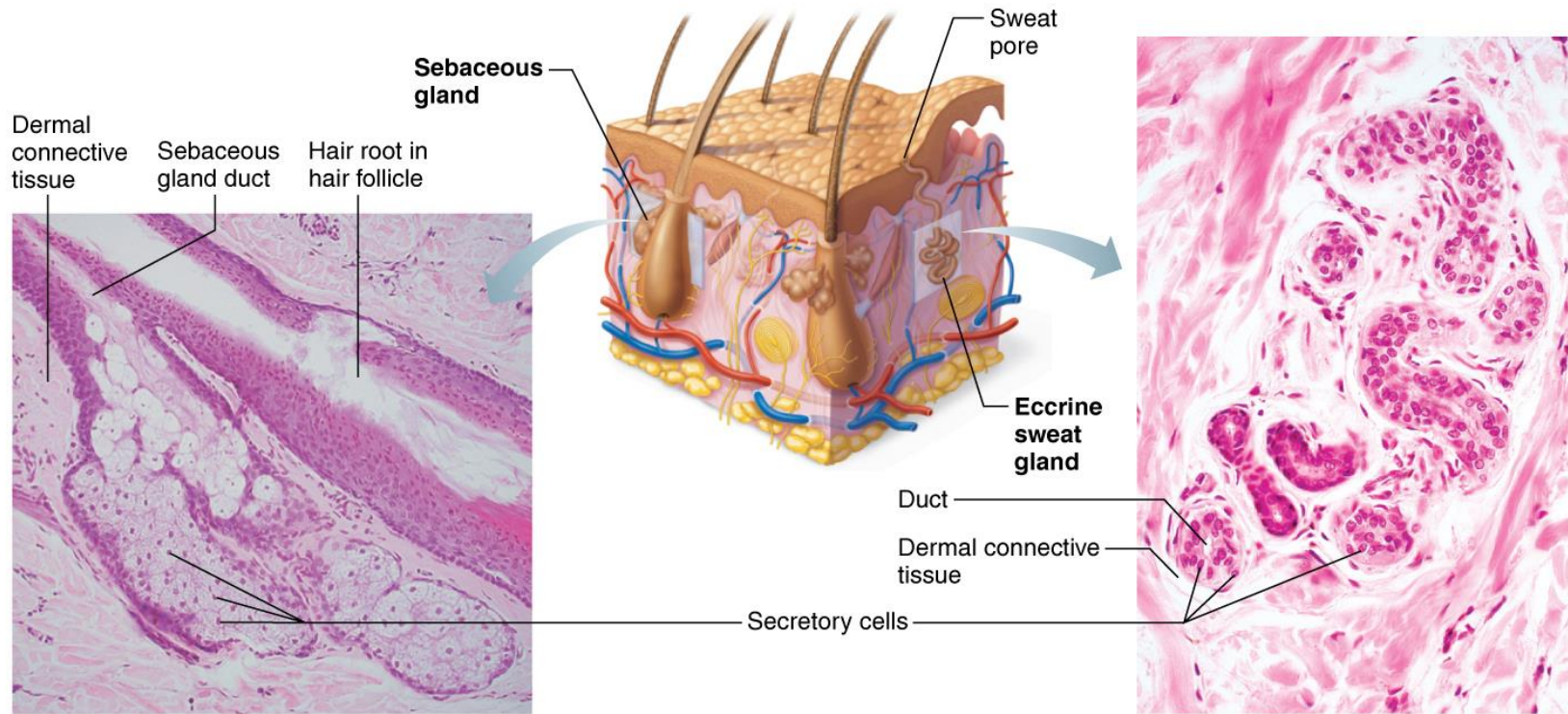
(a)

Photomicrographs of Skin (3 of 3)



(b)

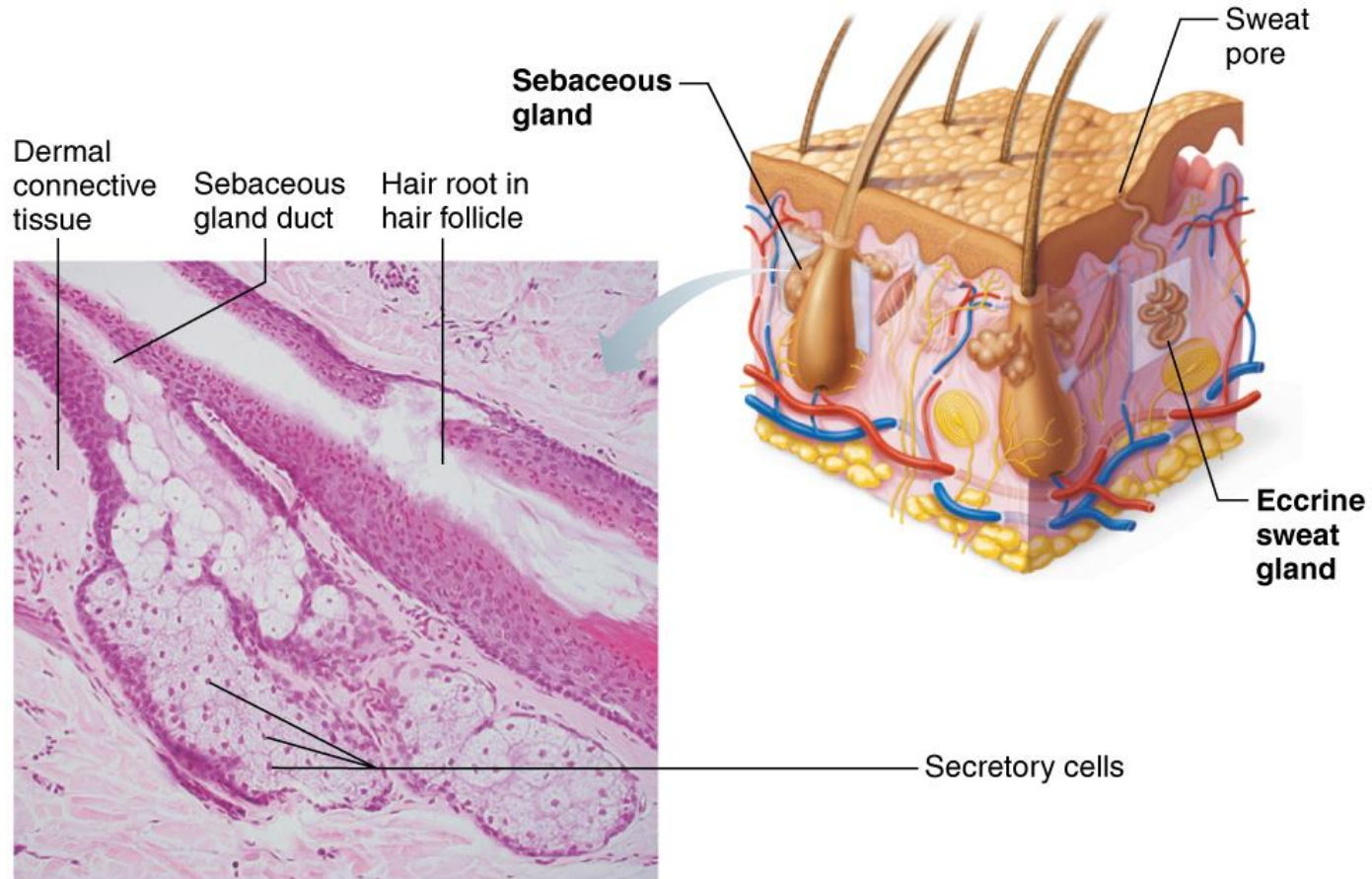
Cutaneous Glands (1 of 3)



(a) Photomicrograph of a sectioned sebaceous gland (100x)

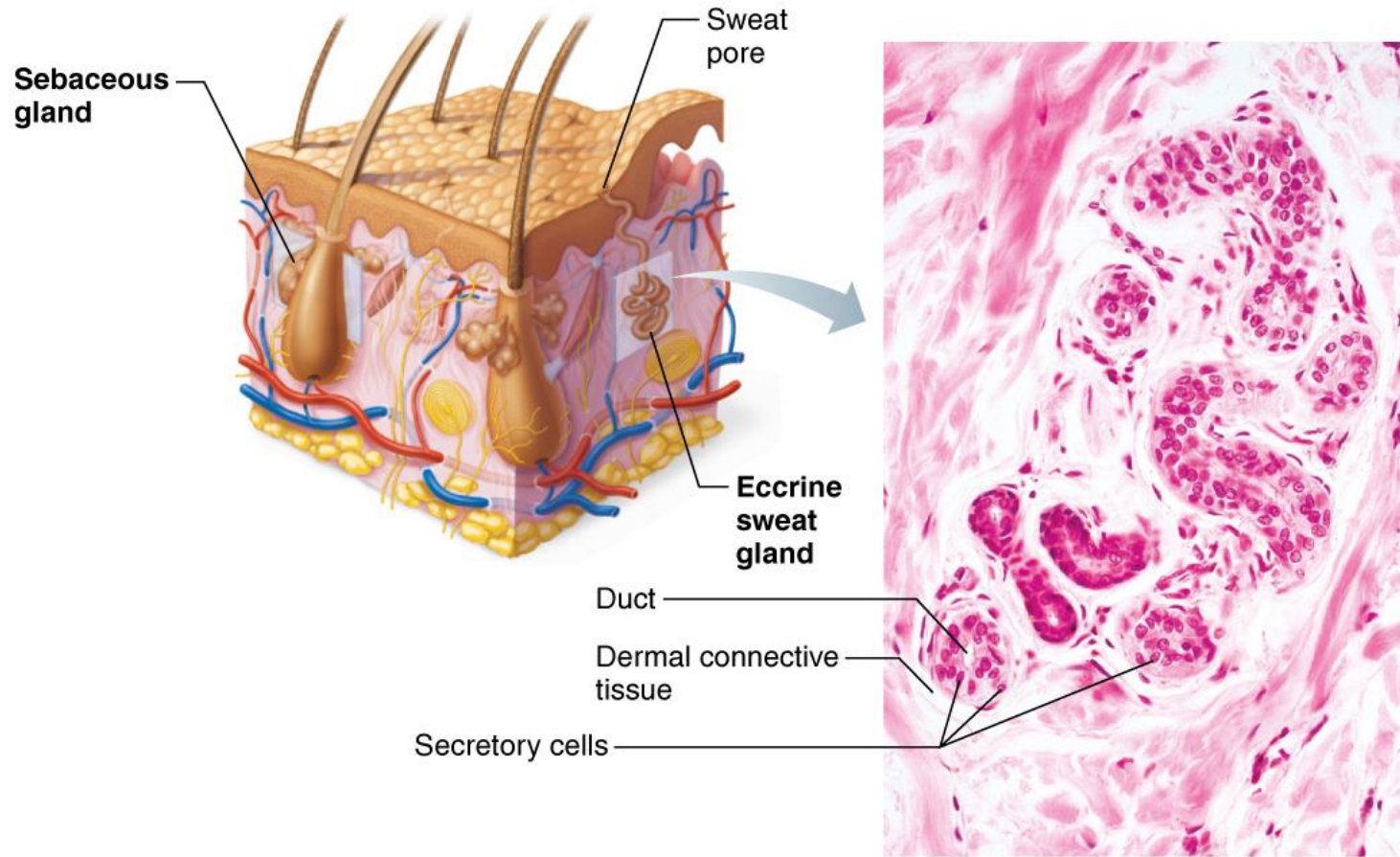
(b) Photomicrograph of a sectioned eccrine sweat gland (145x)

Cutaneous Glands (2 of 3)



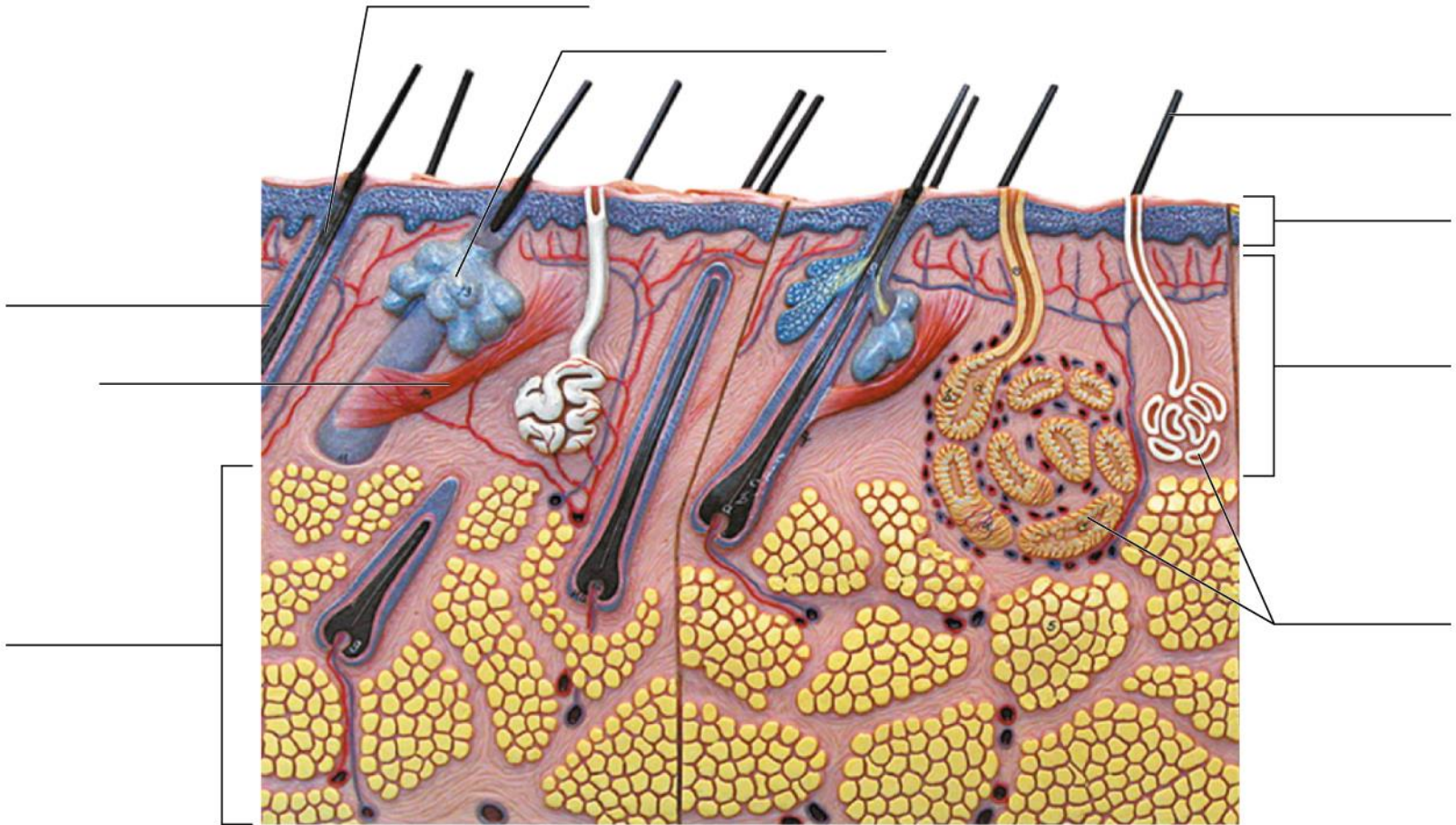
(a) Photomicrograph of a sectioned sebaceous gland (100x)

Cutaneous Glands (3 of 3)

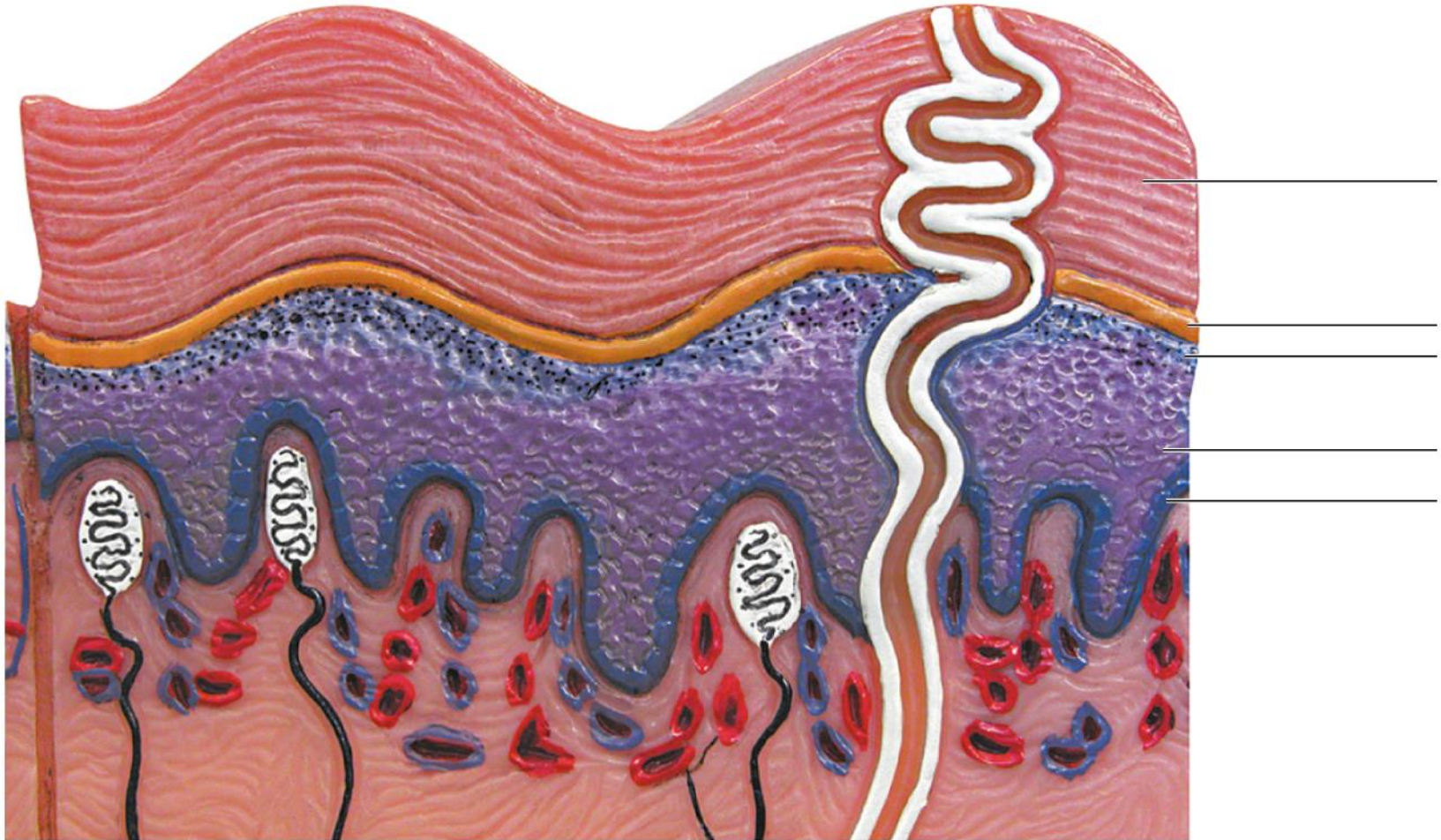


(b) Photomicrograph of a sectioned eccrine sweat gland (145x)

Review (1 of 3)



Review (2 of 3)



Review (3 of 3)

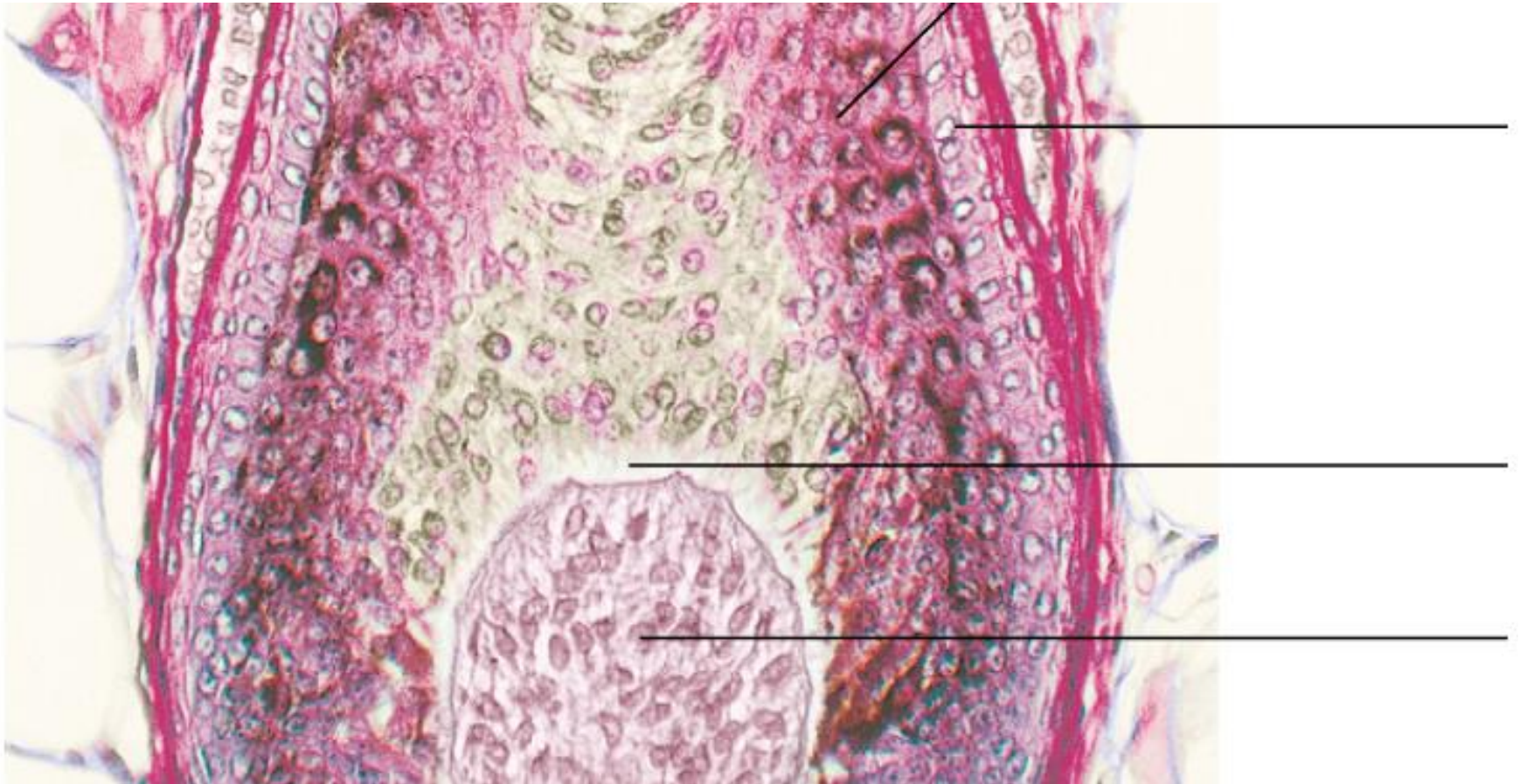


Table 7.1 Layers of the Epidermis (from superficial to deep)

Table 7.1 Layers of the Epidermis (from superficial to deep)

Epidermal layer	Description
Stratum corneum (horny layer)	The outermost layer consisting of 20–30 layers of dead, scalelike keratinocytes. They are constantly being exfoliated and replaced by the division of the deeper cells.
Stratum lucidum (clear layer)	Present only in thick skin. A very thin transparent band of flattened, dead keratinocytes with indistinct boundaries.
Stratum granulosum (granular layer)	A thin layer named for the abundant granules its cells contain. These granules are (1) <i>lamellar granules</i> , which contain a waterproofing glycolipid that is secreted into the extracellular space; and (2) <i>keratohyaline granules</i> , which help to form keratin in the more superficial layers. At the upper border of this layer, the cells are beginning to die.
Stratum spinosum (spiny layer)	Several layers of cells that contain thick, weblike bundles of intermediate filaments made of a pre-keratin protein. The cells in this layer appear spiky because when the tissue is prepared, the cells shrink, but their desmosomes hold tight to adjacent cells. Cells in this layer and the basal layer are the only ones to receive adequate nourishment from diffusion of nutrients from the dermis.
Stratum basale (basal layer)	A single row of cells immediately above the dermis. Its cells are constantly undergoing mitosis to form new cells, hence its alternate name, <i>stratum germinativum</i> . Some 10–25% of the cells in this layer are melanocytes, which thread their processes through this and adjacent layers of keratinocytes. Occasional tactile epithelial cells are also present in this layer.