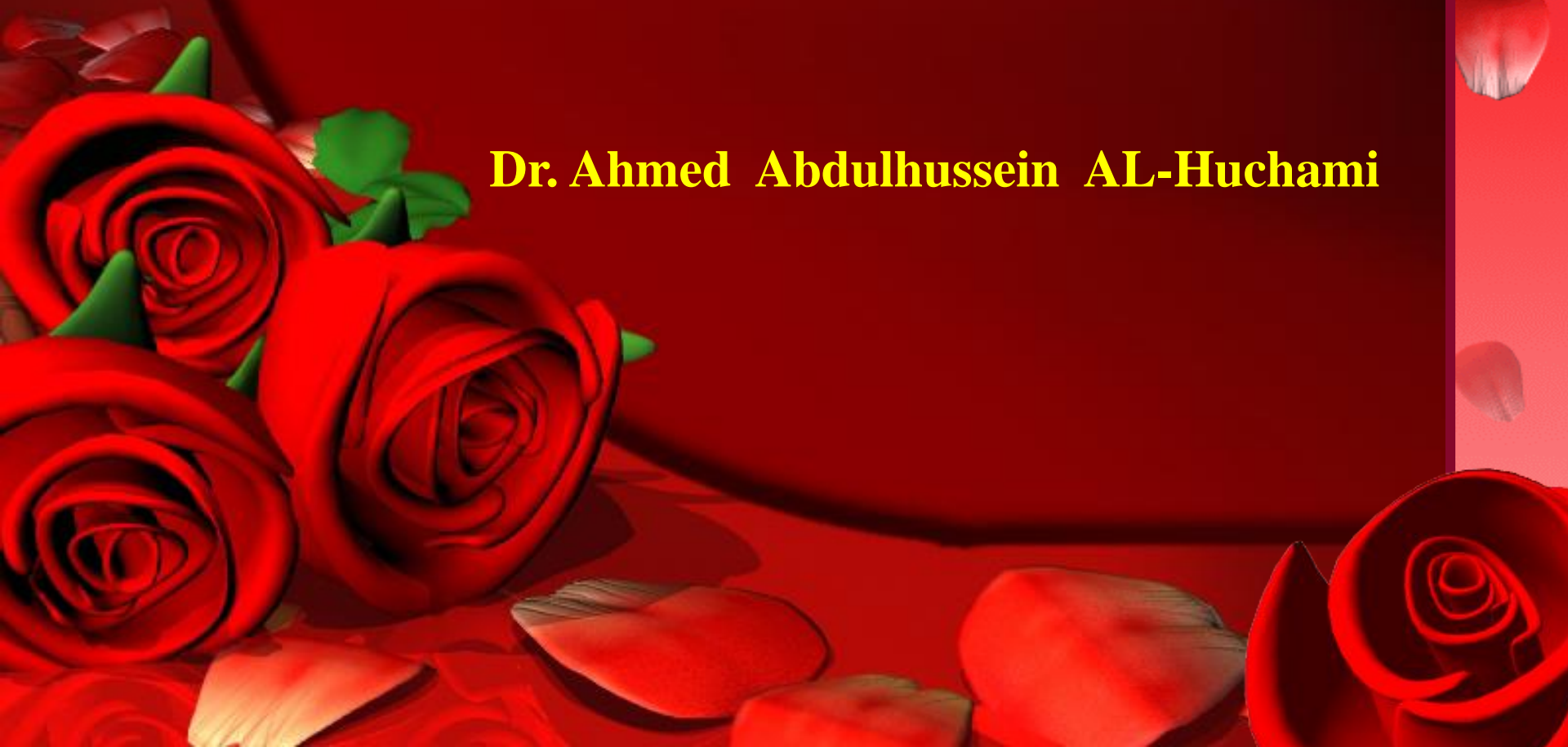

Histology of skin

Dr. Ahmed Abdulhussein AL-Huchami



Skin Appendages

1-Hair Follicles and hair

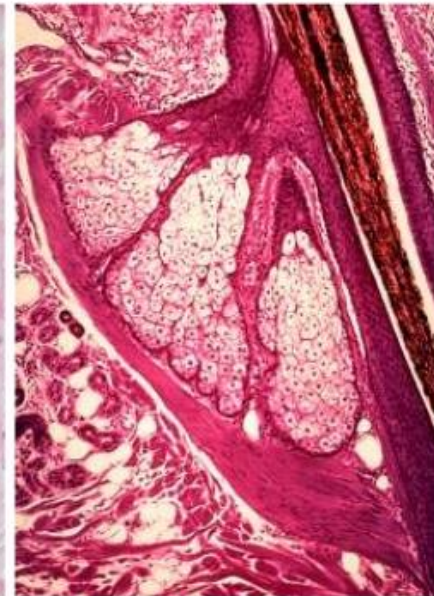
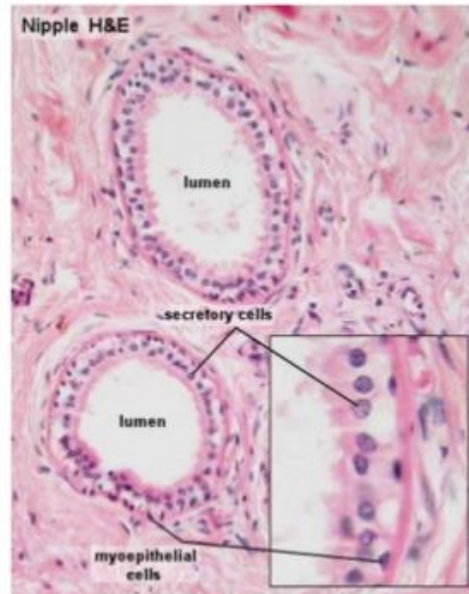
2-Sweat Glands

 Eccrine or merocrine sweat glands

 Apocrine sweat glands

3-Sebaceous glands

4-Nails



Epidermal Appendages

***also nails
mammary**

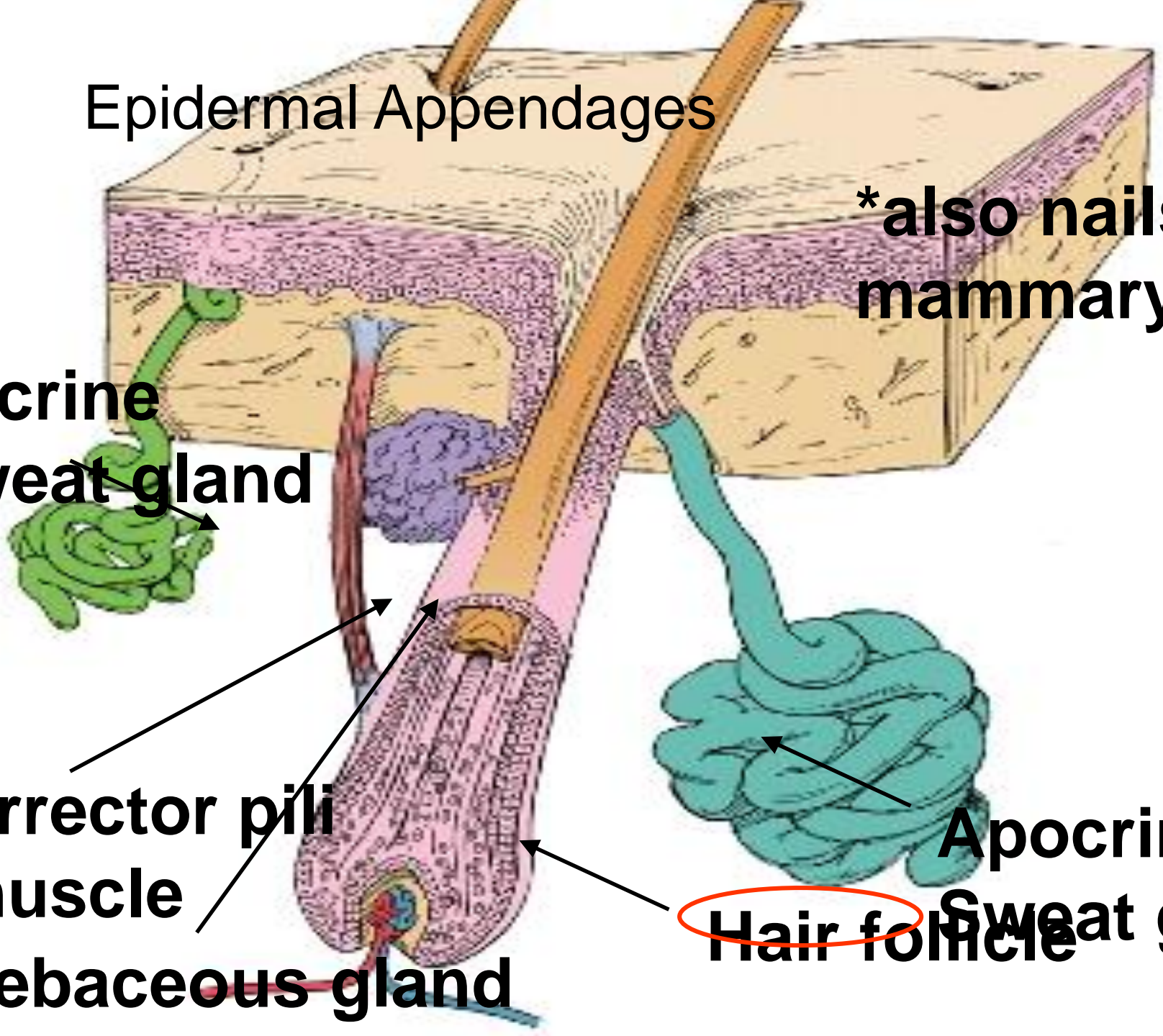
**Eccrine
Sweat gland**

**Arrector pili
muscle**

Sebaceous gland

**Apocrine
Sweat g**

Hair follicle





Hairs

- Present almost the whole body
- Not present : Palms, Soles, Ventral surface & sides of the digits & some parts of the male & female external genitalia

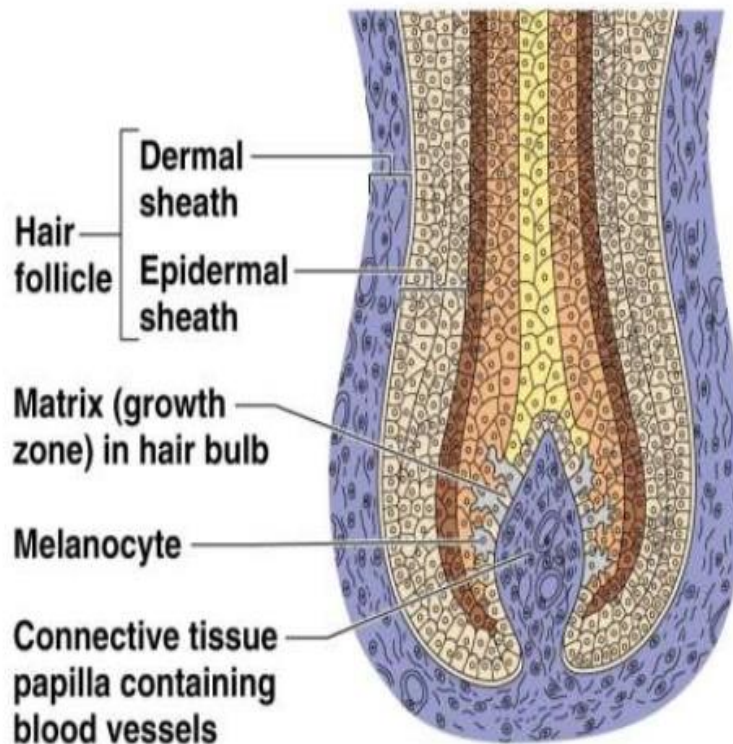


(1)-Hair and hair Follicles

Hair -Produced by hair follicle which are made of hard keratinized epithelial cells

Melanocytes provide pigment for hair color

Structure of Hair Follicle



Parts

- The visible part – shaft
- Embedded part – root
- Expanded lower end of the root – bulb
- The bulb is generated invaginated from below by part of the dermis – hair papilla
- Root is surrounded by a tubular sheath – hair follicle

Hair shaft

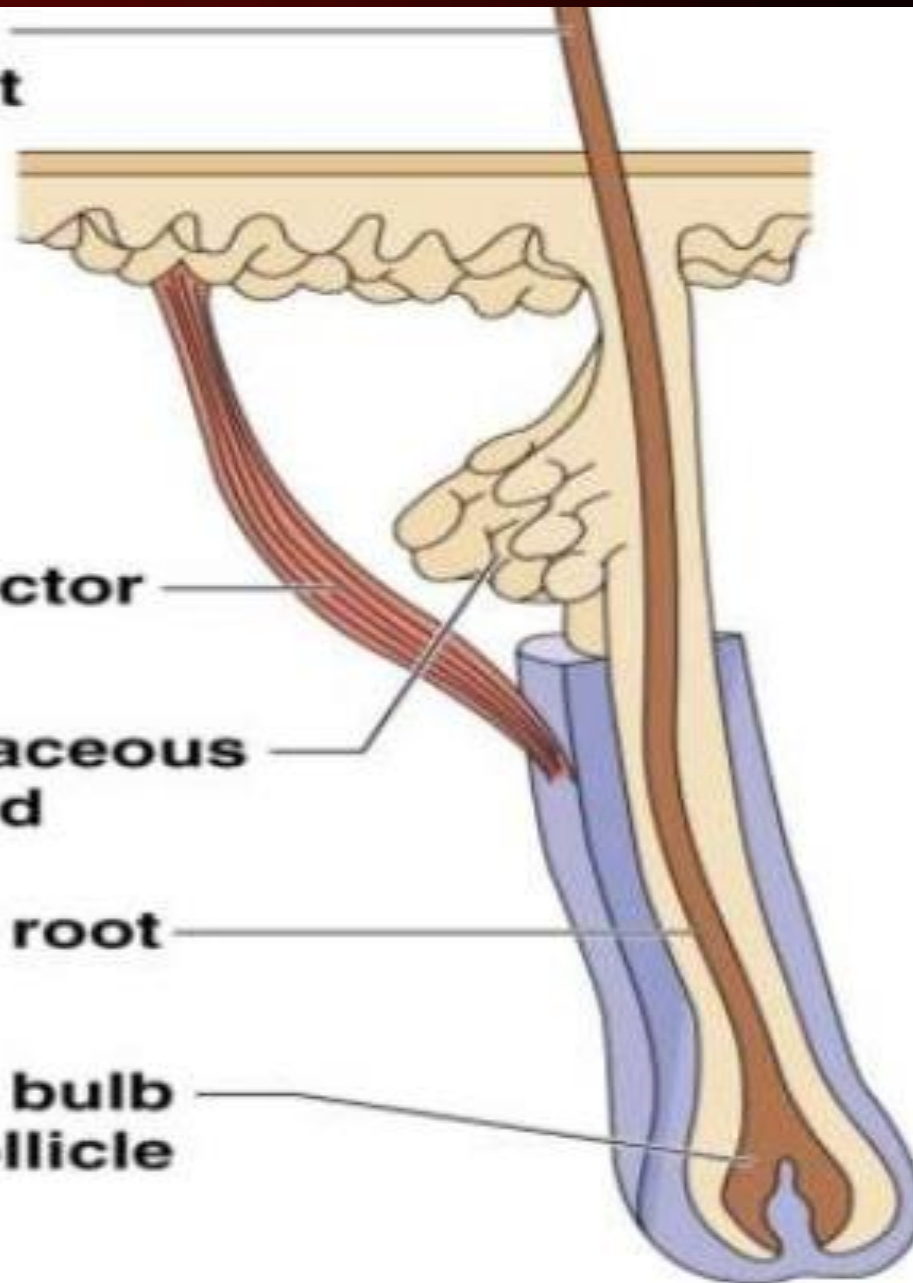
Arrector pili

Sebaceous gland

Hair root

Hair bulb in follicle

(a)



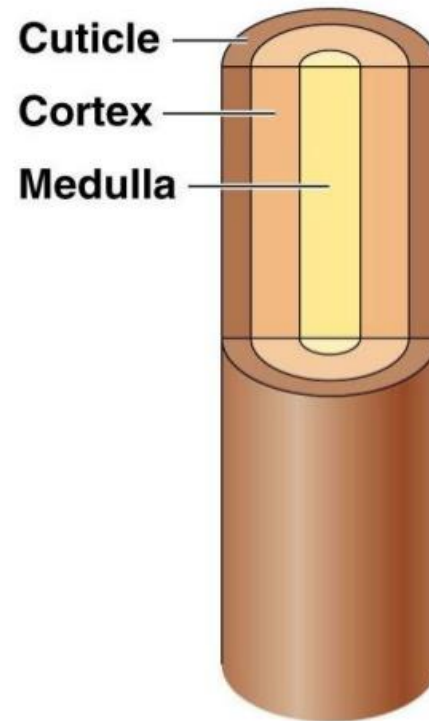
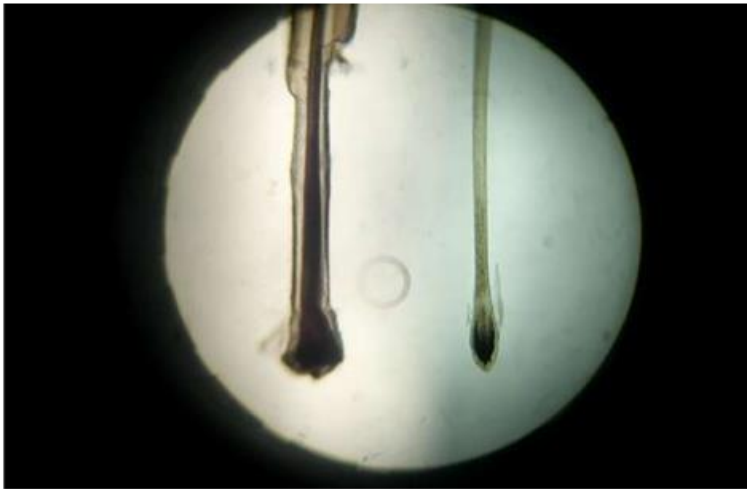
Hair Anatomy

Hair anatomy

Central medulla

Cortex surrounds medulla

Cuticle on outside of cortex Most heavily keratinized



Structure of hair shaft

- ✓ Hair – Modified part of stratum corneum
- ✓ Has outer cortex and inner medulla in large hairs, no medulla in thin hairs
- ✓ Cortex is **acellular** & is made up of keratin
- ✓ Medulla consists of **cornified** cells of irregular shapes

Associated hair structures

Hair follicle

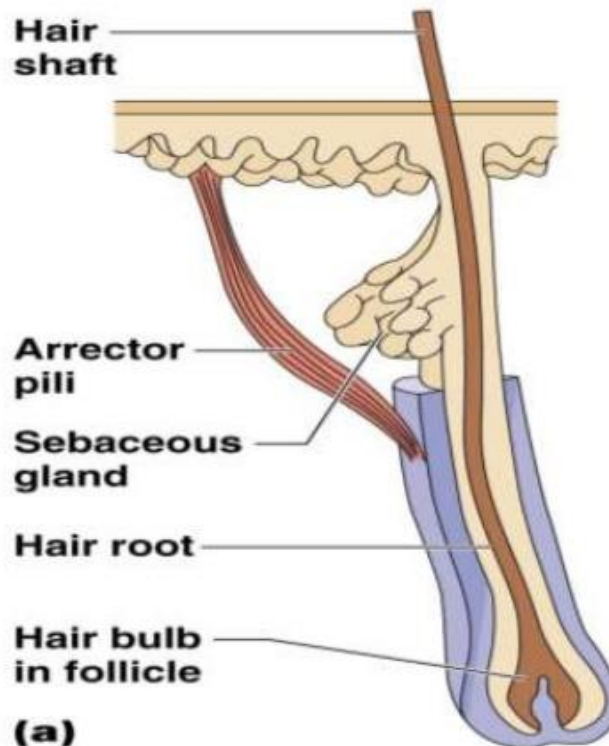
Dermal and epidermal sheath surround hair root

Arrector pili muscle

Smooth muscle

Pulls hairs upright when cold or frightened

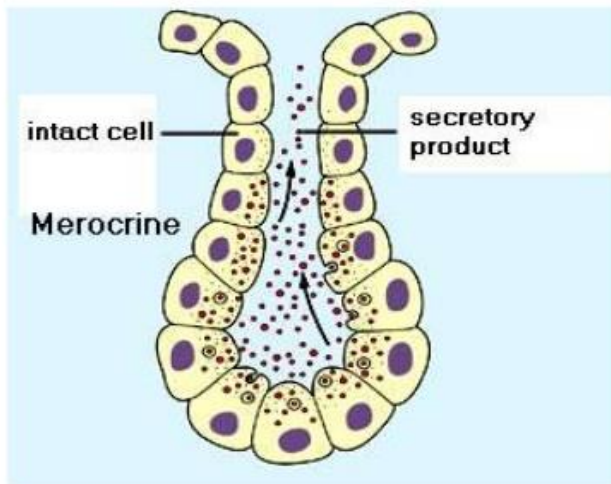
Sebaceous gland



(2)-Sweat Glands

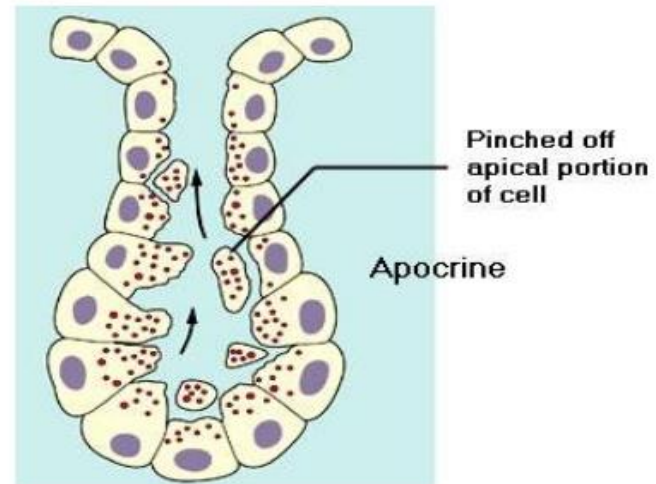
Eccrine sweat gland

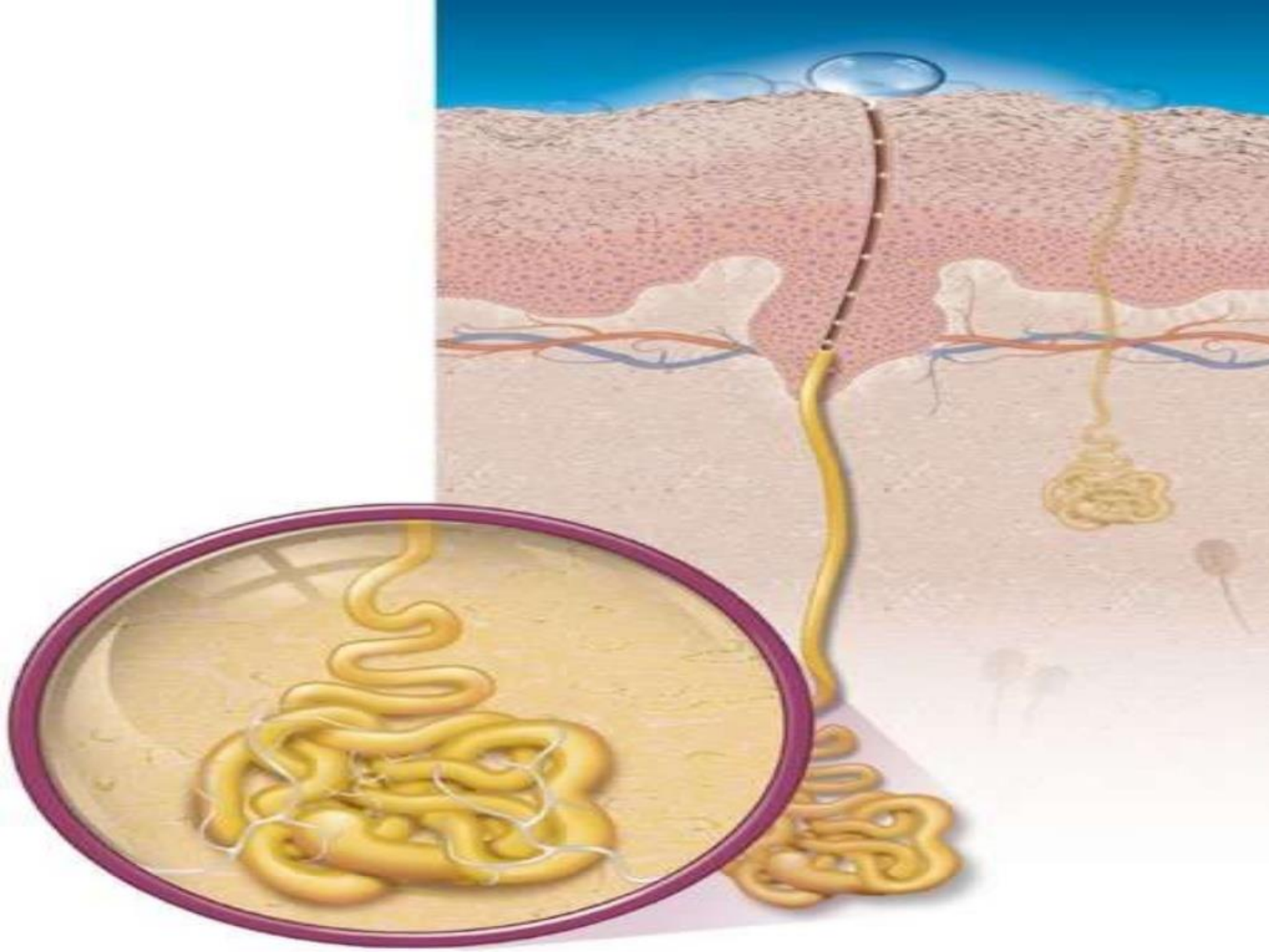
- Merocrine secretion
- Empty directly onto skin surface
- Location: most all over body (esp. abundant on palms & soles: ~ 500/cm²)
- Clear, watery secretion (99% H₂O; rest NaCl + some waste products)



Apocrine sweat gland

- Empty into hair follicle
- Location: armpits, groin, nipples
- Viscous, cloudy secretion → good nutrient source for bacteria (odor !!)
- Secretion may contain Pheromones
- Secretion begins at puberty and is stimulated during emotional distress





- These glands secrete a protein rich, milky fluid which is initially odourless but acquires a distinct odour due to bacterial decomposition

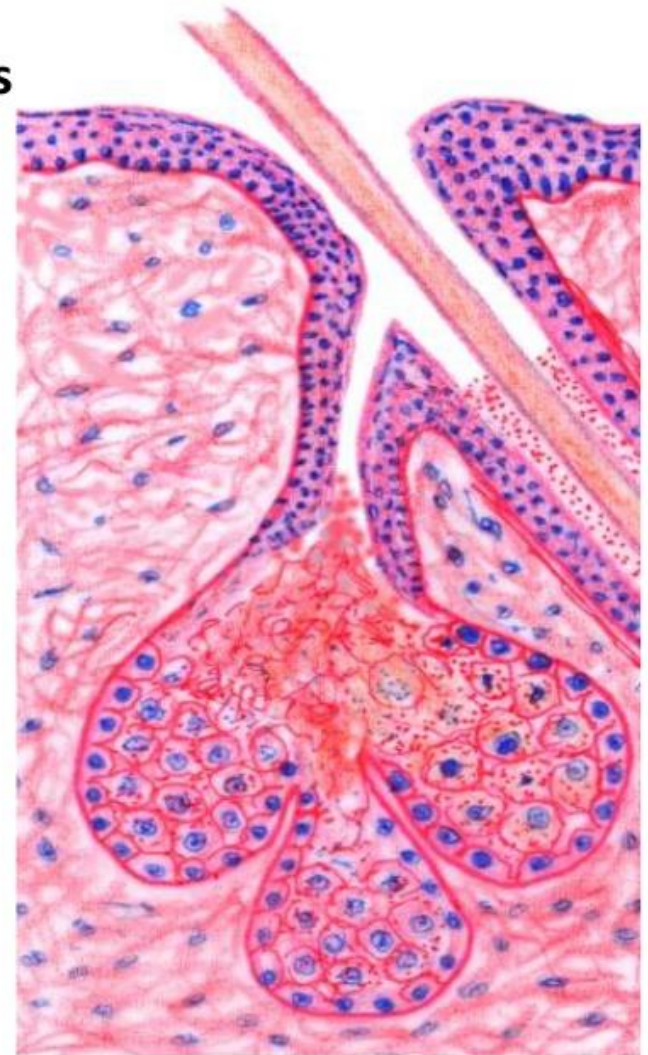
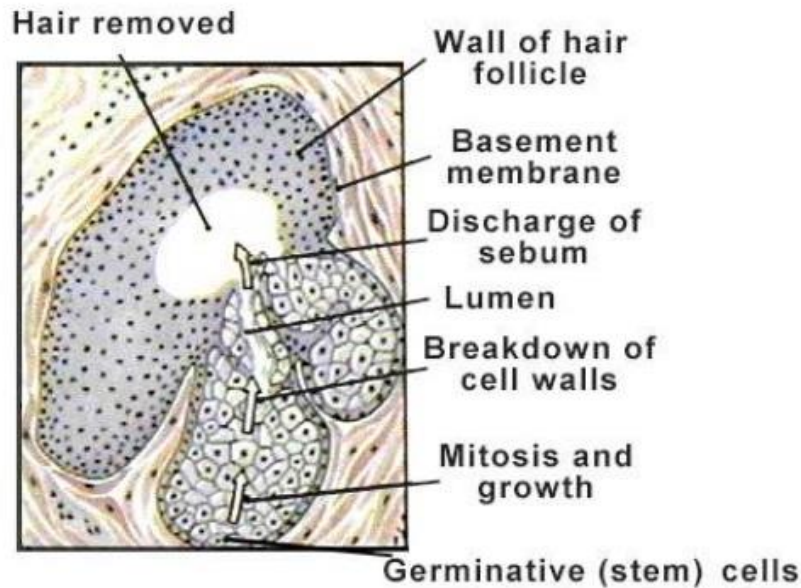


**Apocrine
sweat gland**

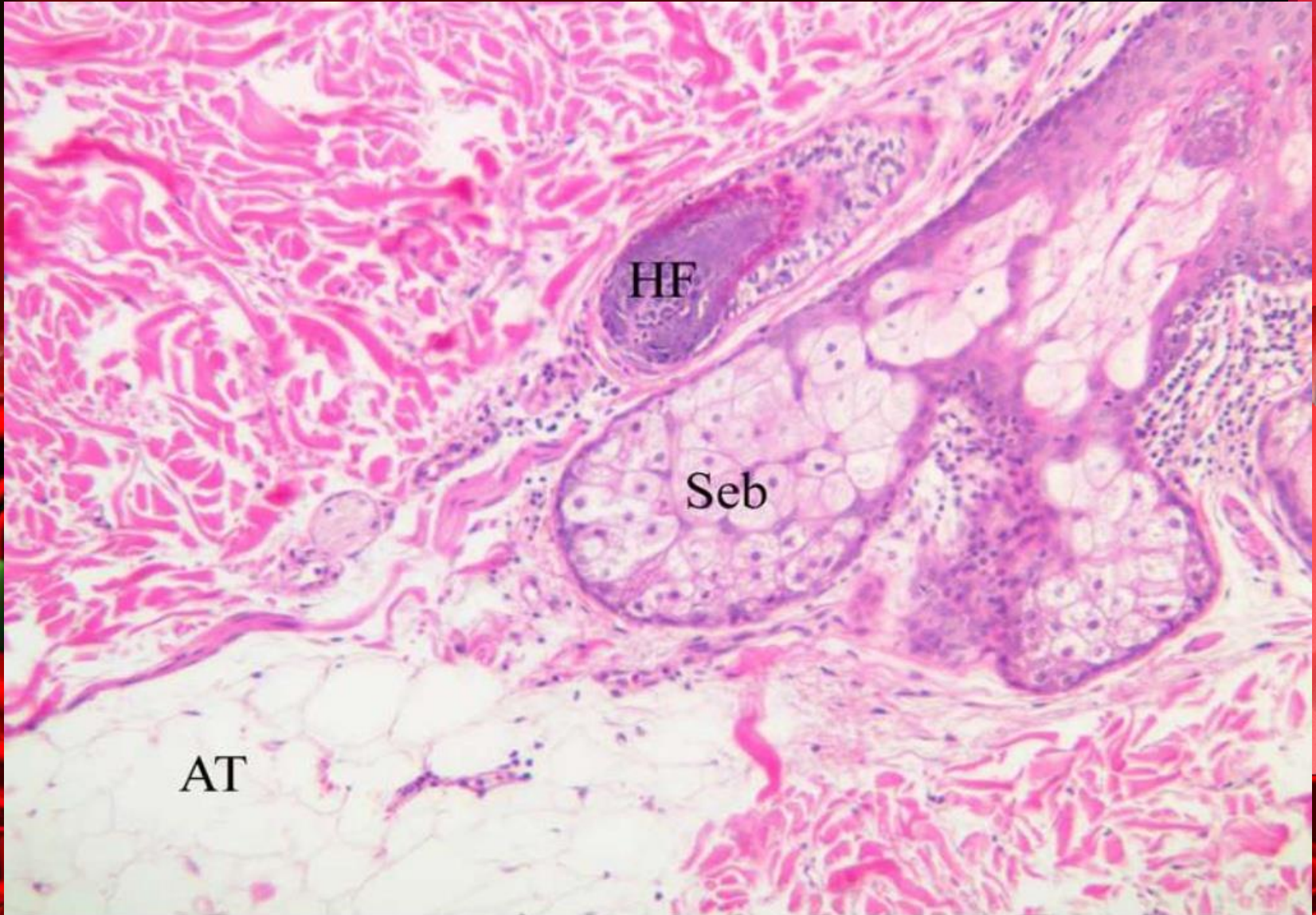


(3)-Sebaceous glands

Sebum discharged mostly into hair follicles
(lubrication & bactericidal)

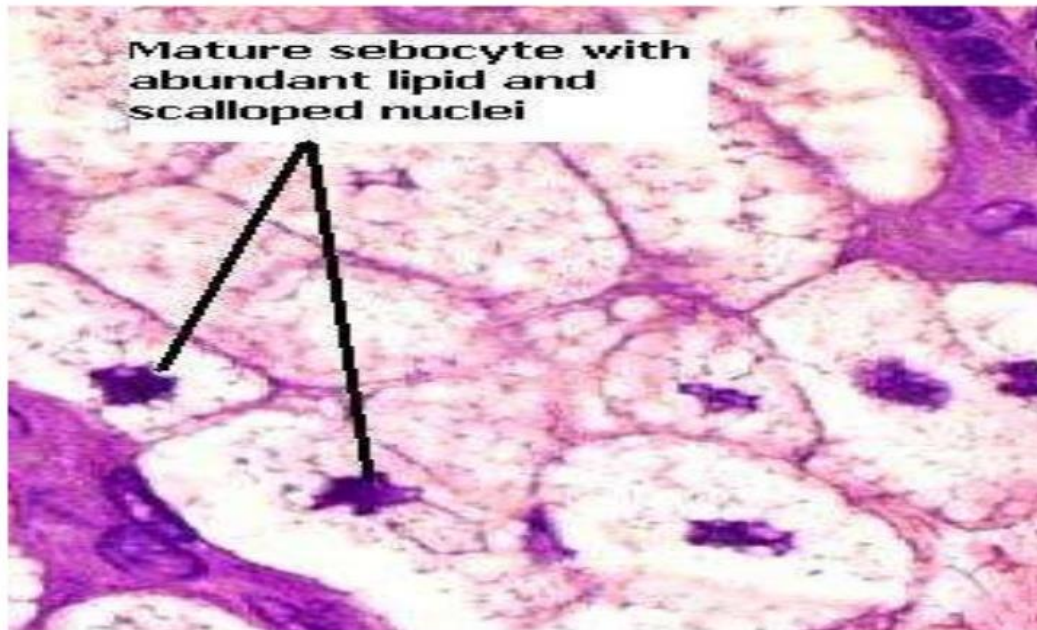


- Found in dermis of the skin
- Ducts open into the hair follicle
- Holocrine gland
- Secretes **sebum**: antifungal & anti bacterial.
Contains lipids & cholesterol
 - Oily in nature
 - Prevents dryness
 - Resistant to moisture



Seb - sebaceous gland HF - hair follicle AT - adipose tissue

- The secretory acinus has,
 - flattened epithelial cells
 - Centrally placed rounded cells / **sebocytes**



4-Nail

Nails

Scale-like modifications of the epidermis

Heavily keratinized

Stratum basale extends beneath the nail bed

Responsible for growth

Lack of pigment makes them colorless

Nail Anatomy

Nail structures

Free edge

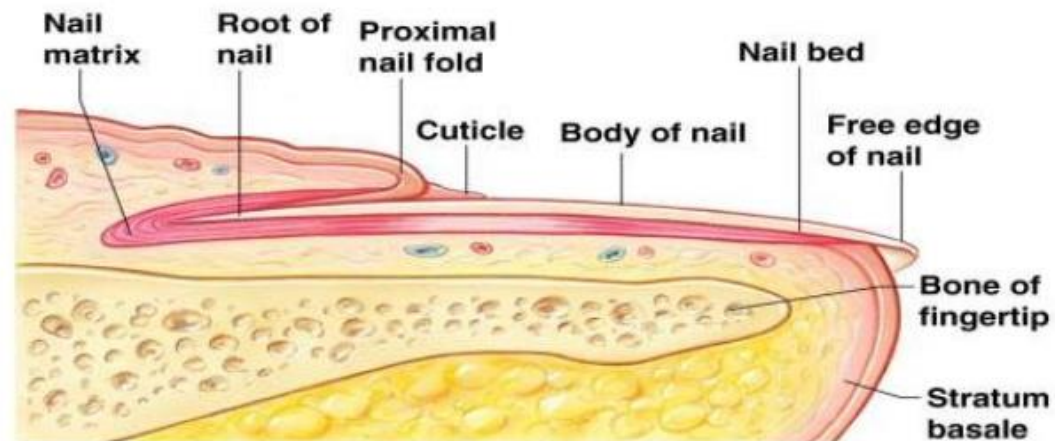
Body is the visible attached portion

Root of nail embedded in skin

Cuticle is the proximal nail fold that projects onto the nail body



(a) Surface view



(b) Longitudinal section of the distal part of a finger

 *THANK*

YOU