Apparato Tegumentario

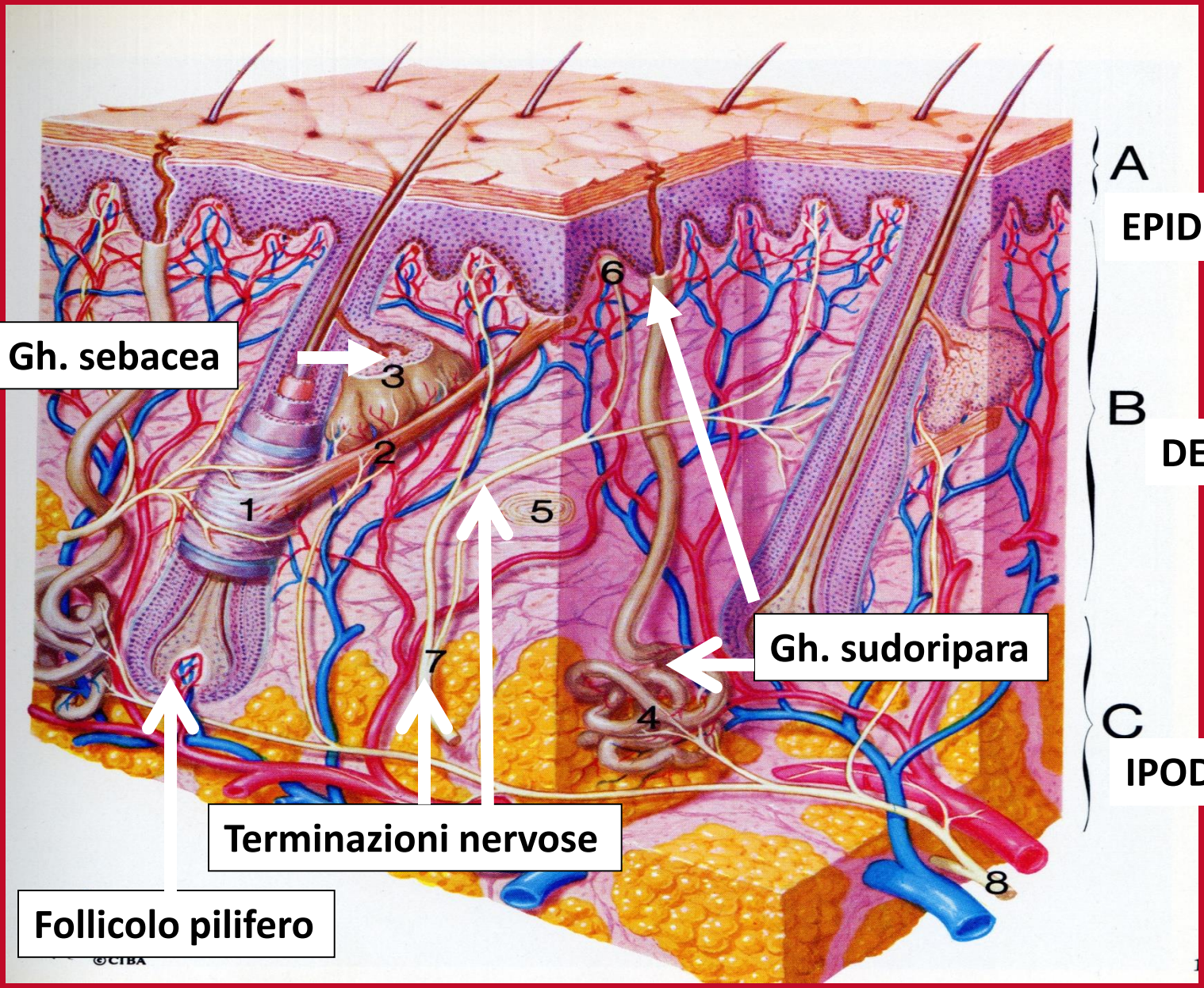
Cute

Epidermide, derma e tela sottocutanea

Annessi cutanei

Formazioni cornee (peli e unghie) e annessi ghiandolari (ghiandole sudoripare e sebacee, ghiandola mammaria)

Struttura cutanea



Strato corneo

↑

Strato lucido

↑

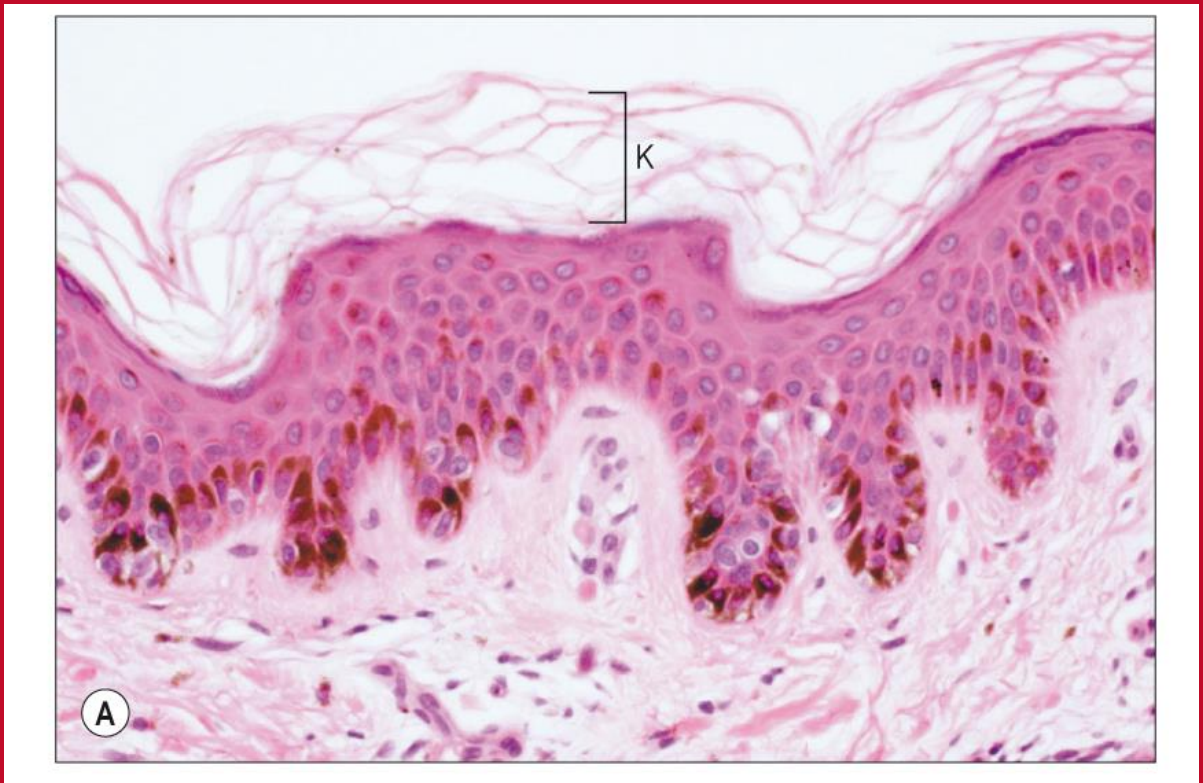
Strato granuloso

↑

Strato spinoso

↑

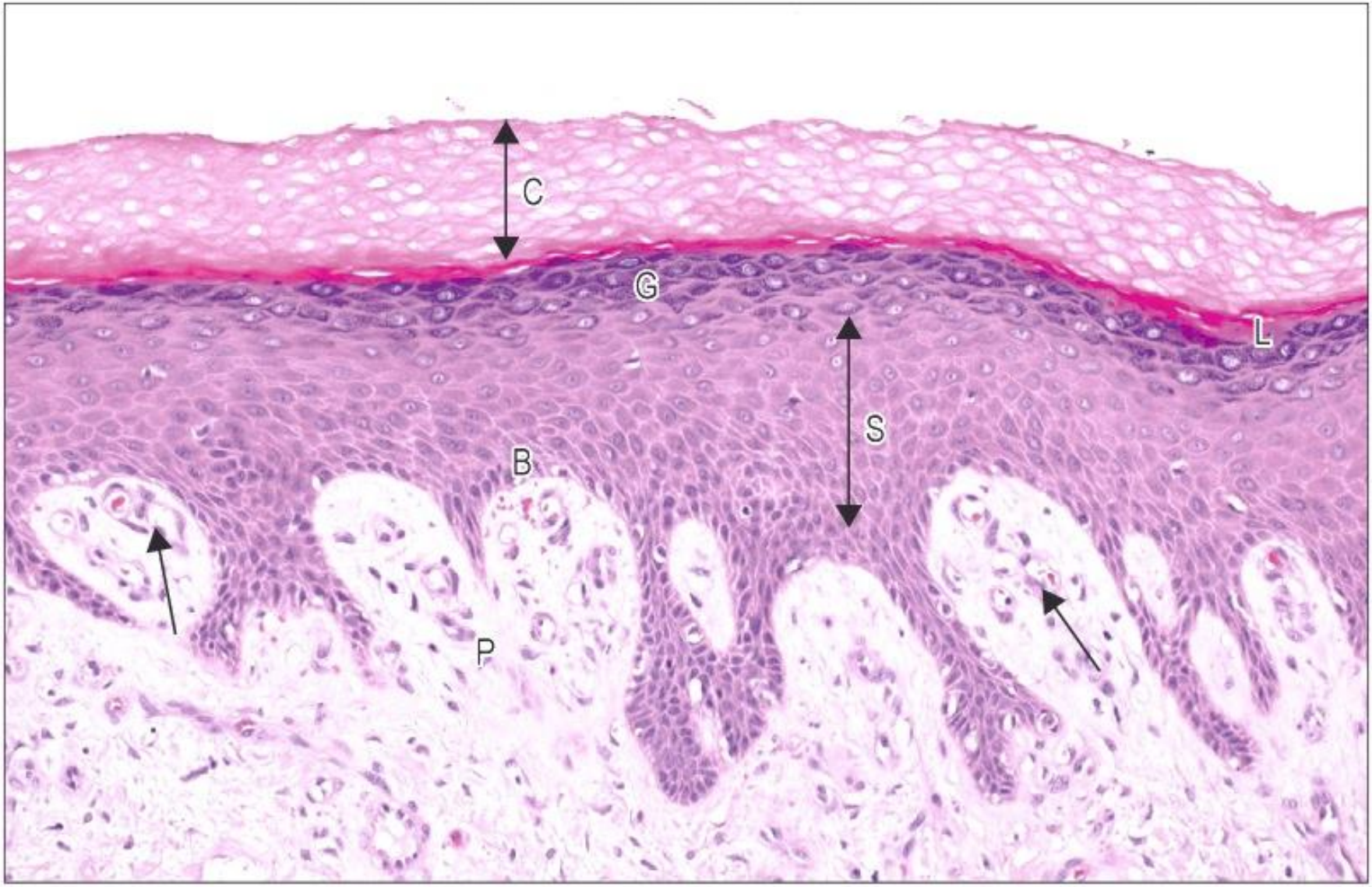
Strato basale

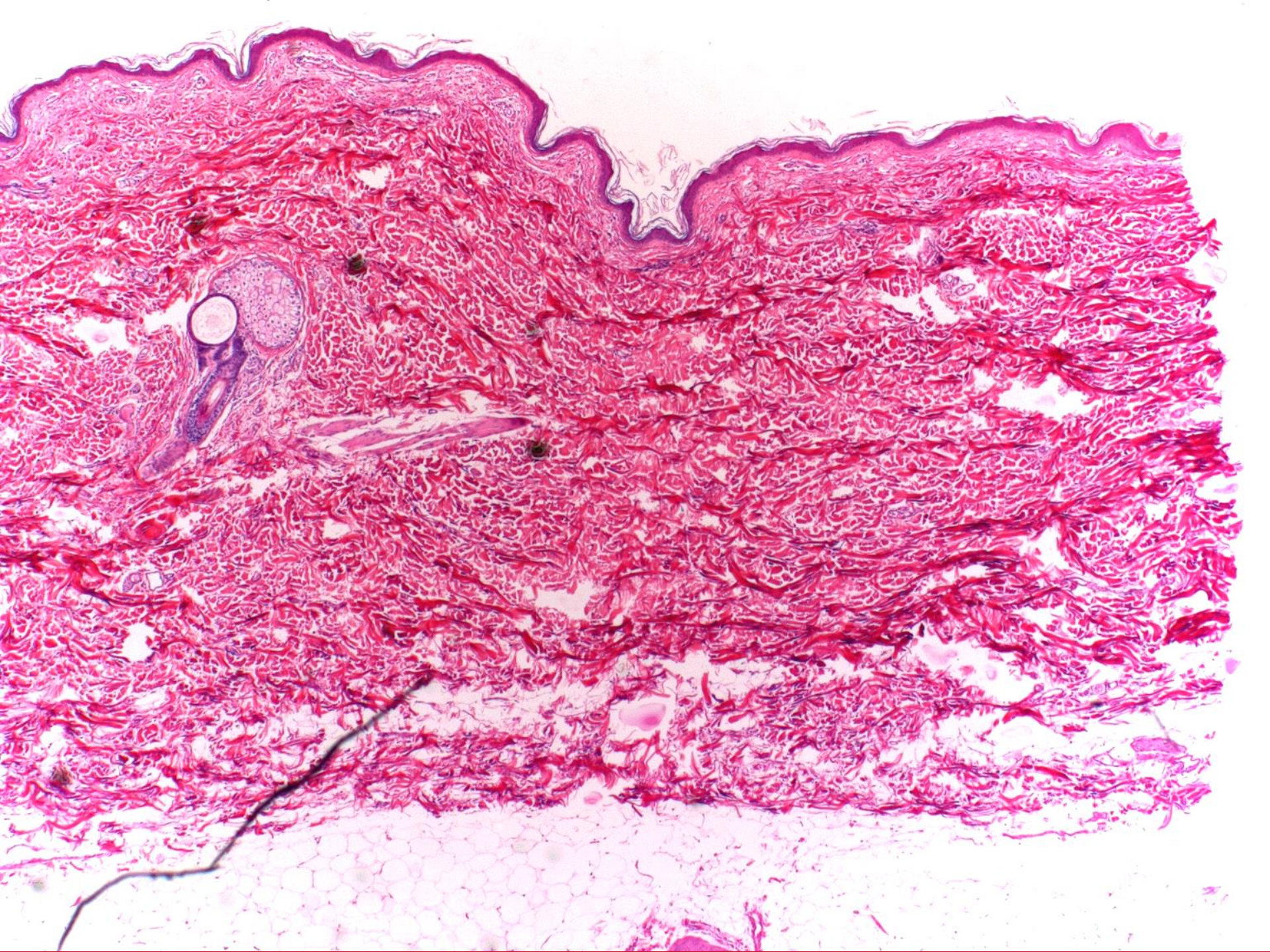


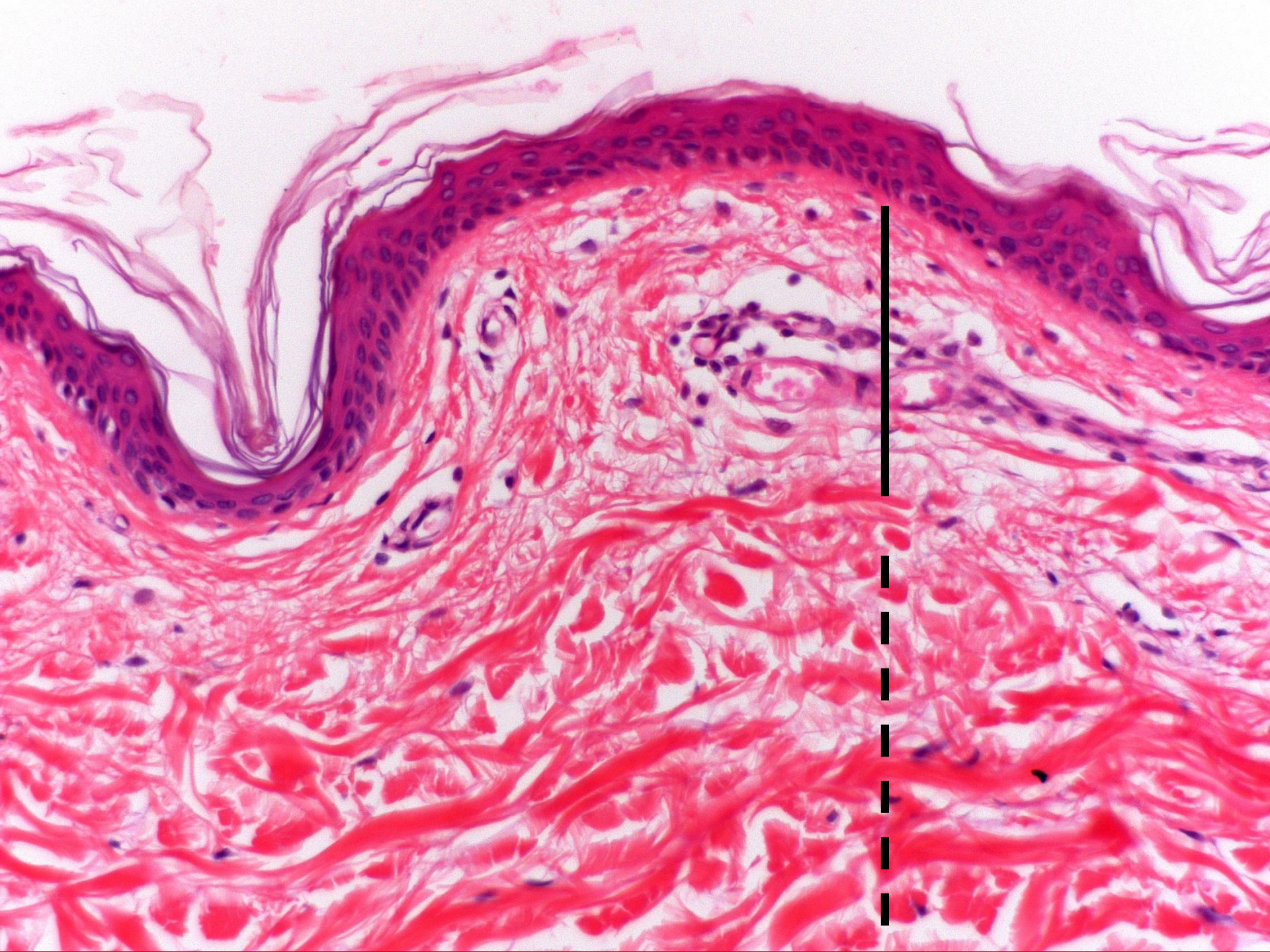
Nell’epidermide si trova inoltre un particolare tipo di cellule:

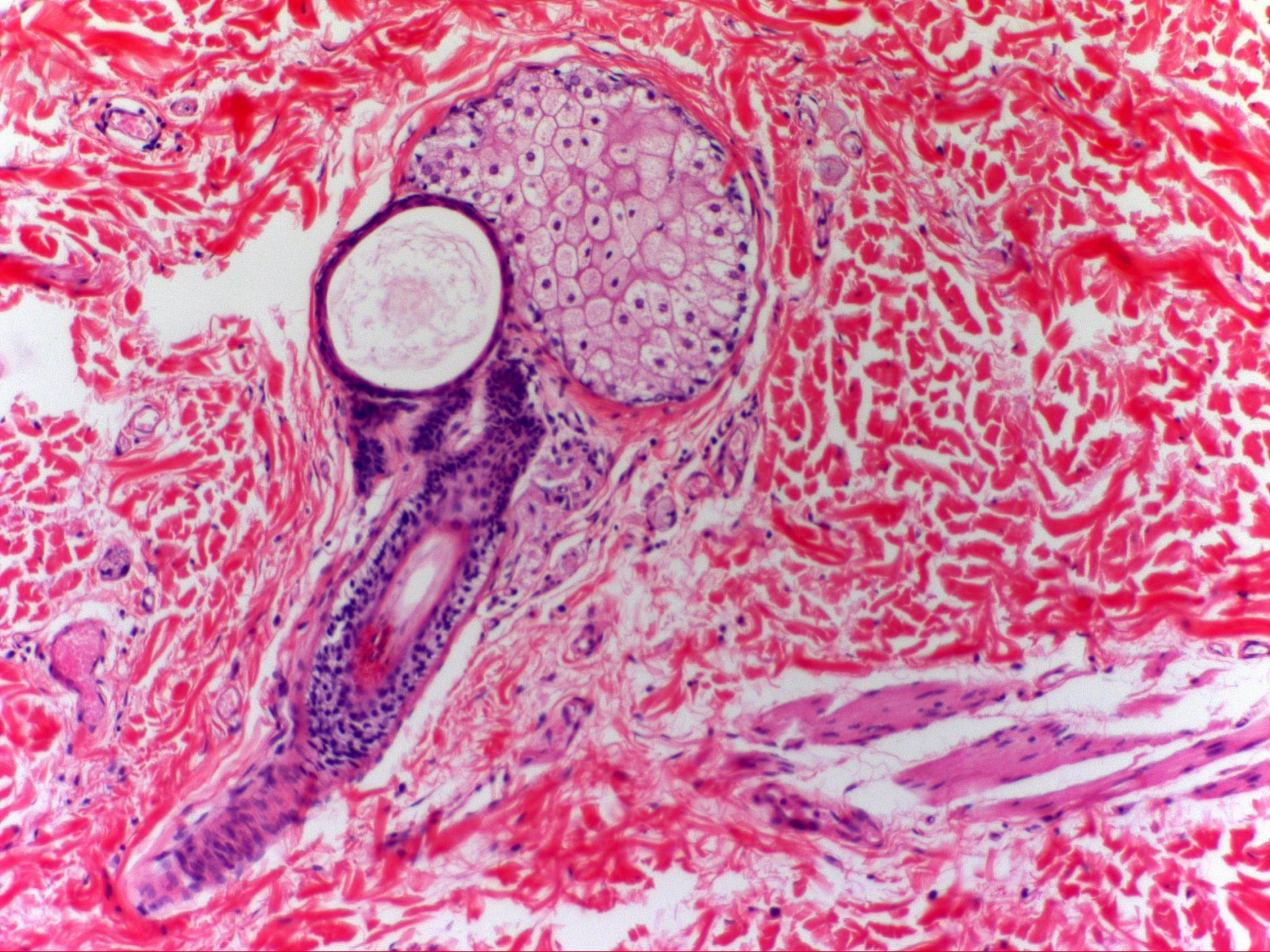
i melanociti

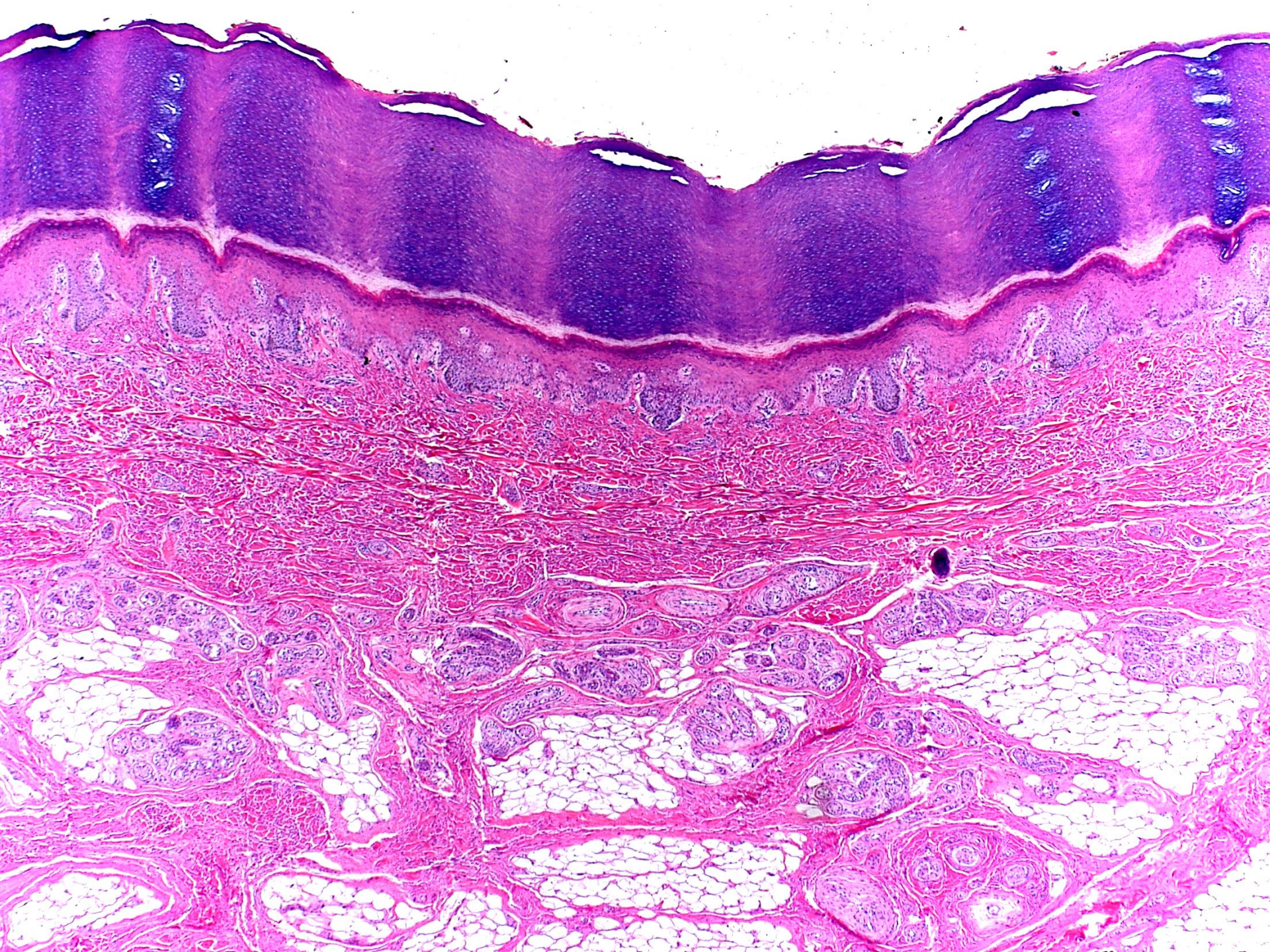
che elaborano un particolare pigmento, la melanina.

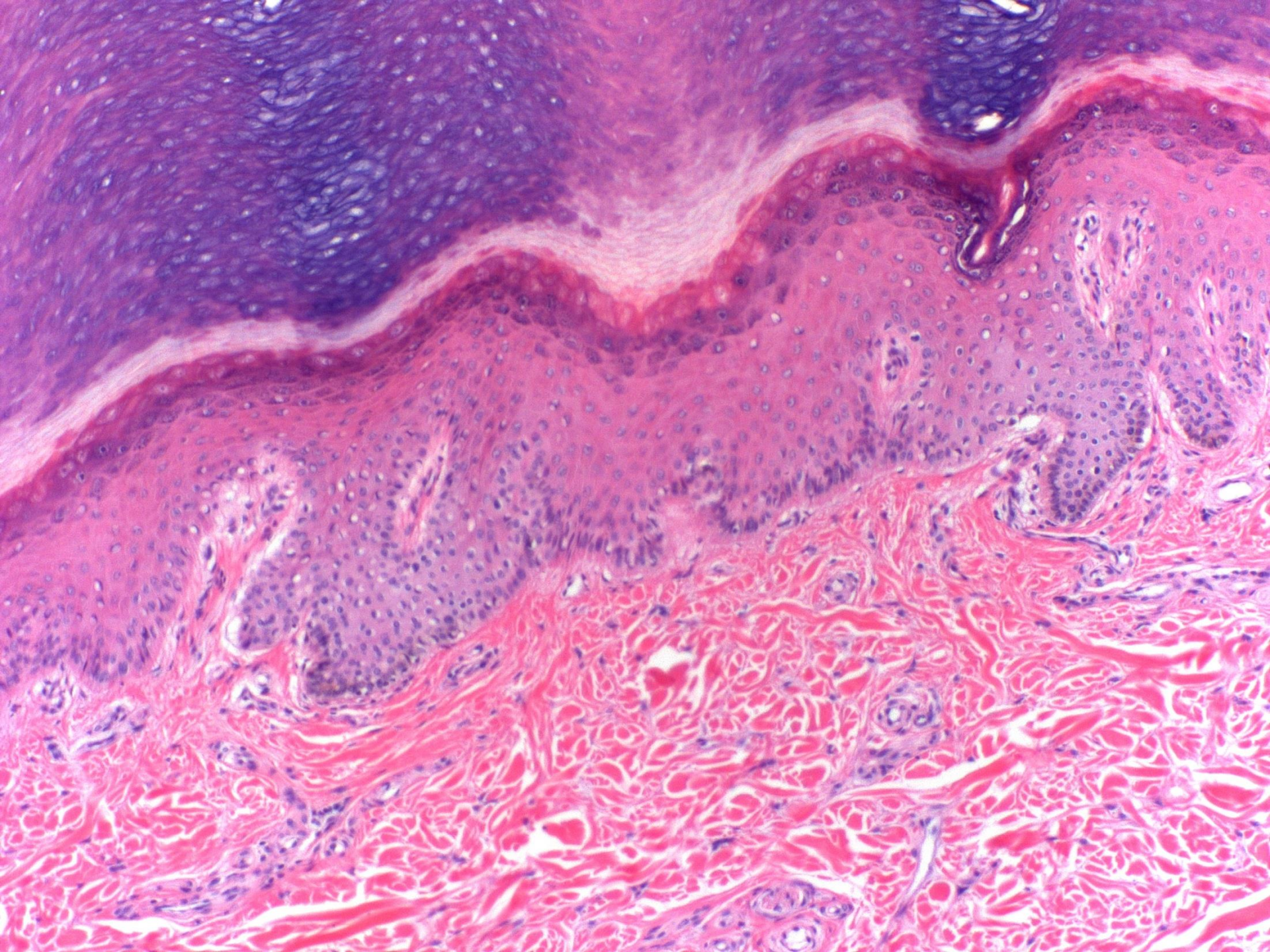

C
G
L
S
B
P

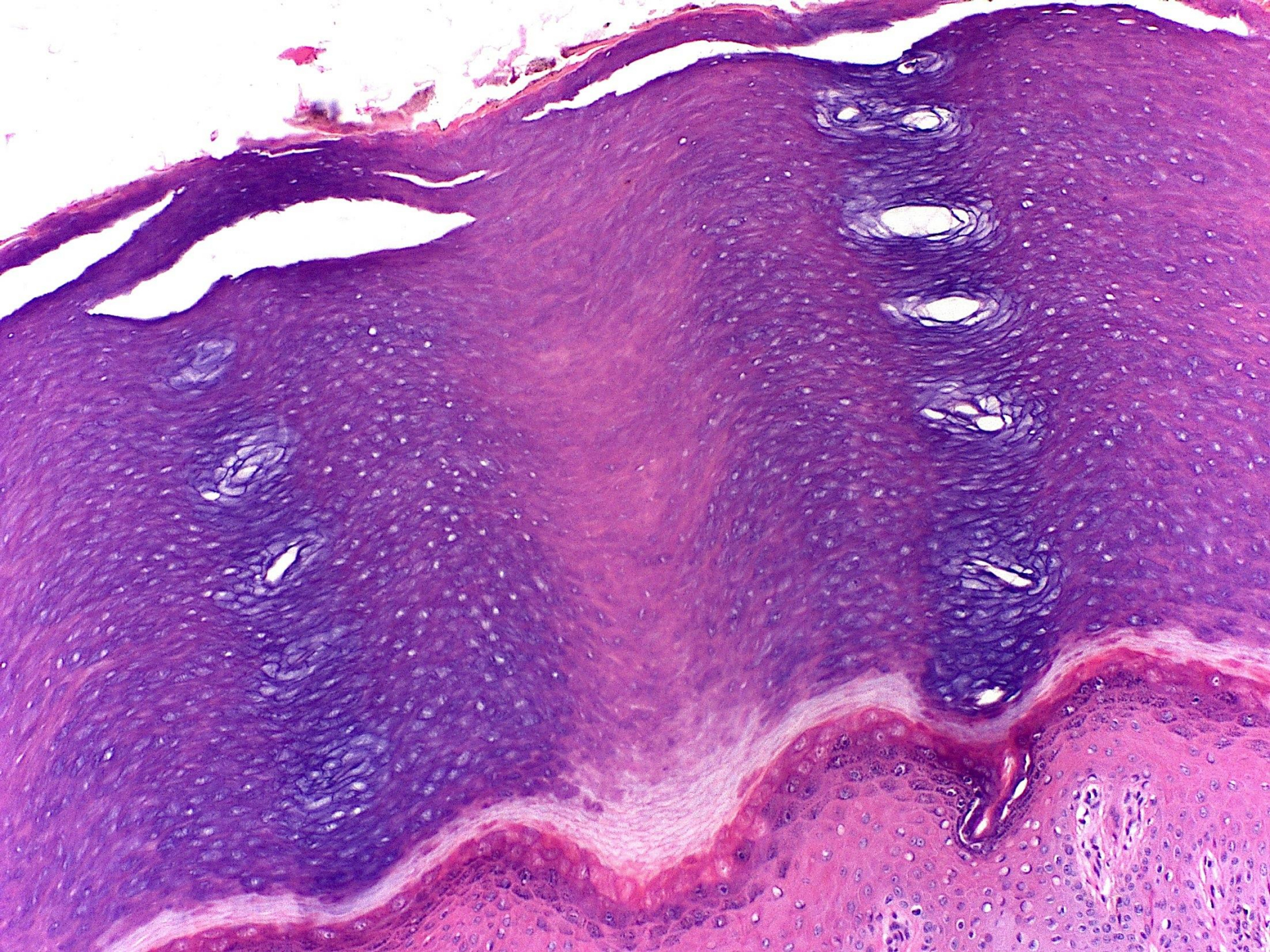


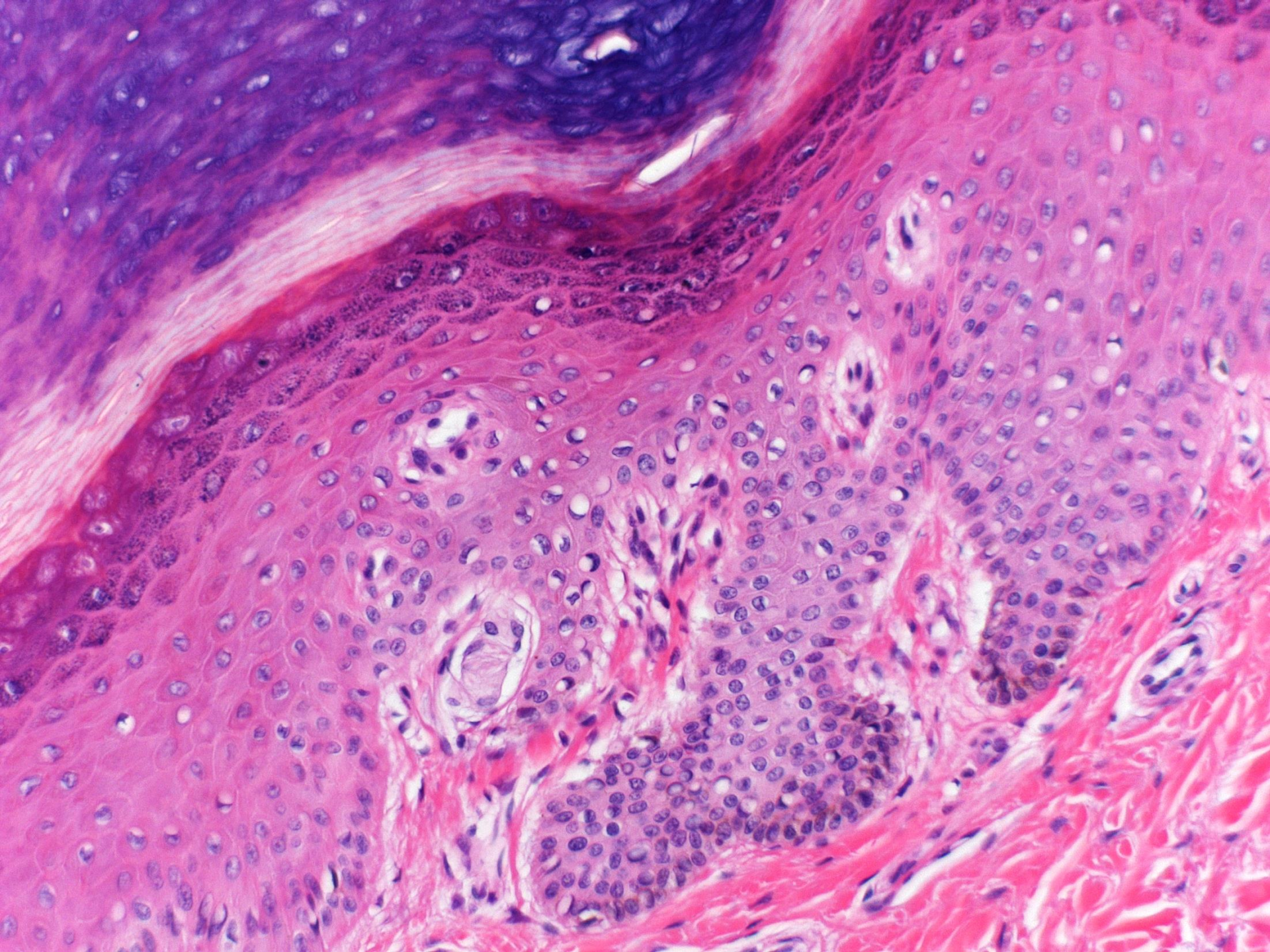








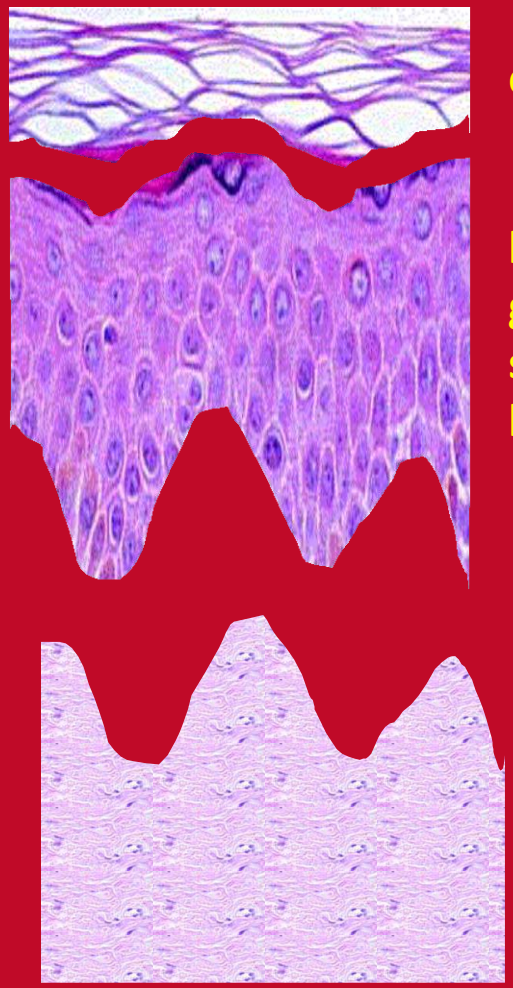




Turnover Epidermico (28 giorni)

14 giorni

14 giorni



corneo

lucido
granuloso
spinoso
basale

DERMA

- L'epidermide è un epitelio dinamico che si rinnova continuamente per tutta la vita
- Questo rapido turnover nell'adulto richiede la presenza di stem cell capaci di dare origine a cellule mature

Funzioni della cute

secretorie
- cheratinopoiesi
- pigmentogenesi
- secr. sebacea
- secr. sudorifera

protettive
(flora residente)
- immunologiche
- meccaniche
- caloriche
- chimiche
- microrganismi

sensoriali
- meccanica
- dolore, prurito
- termorecezione

Localizzazione delle stem cells nella pelle

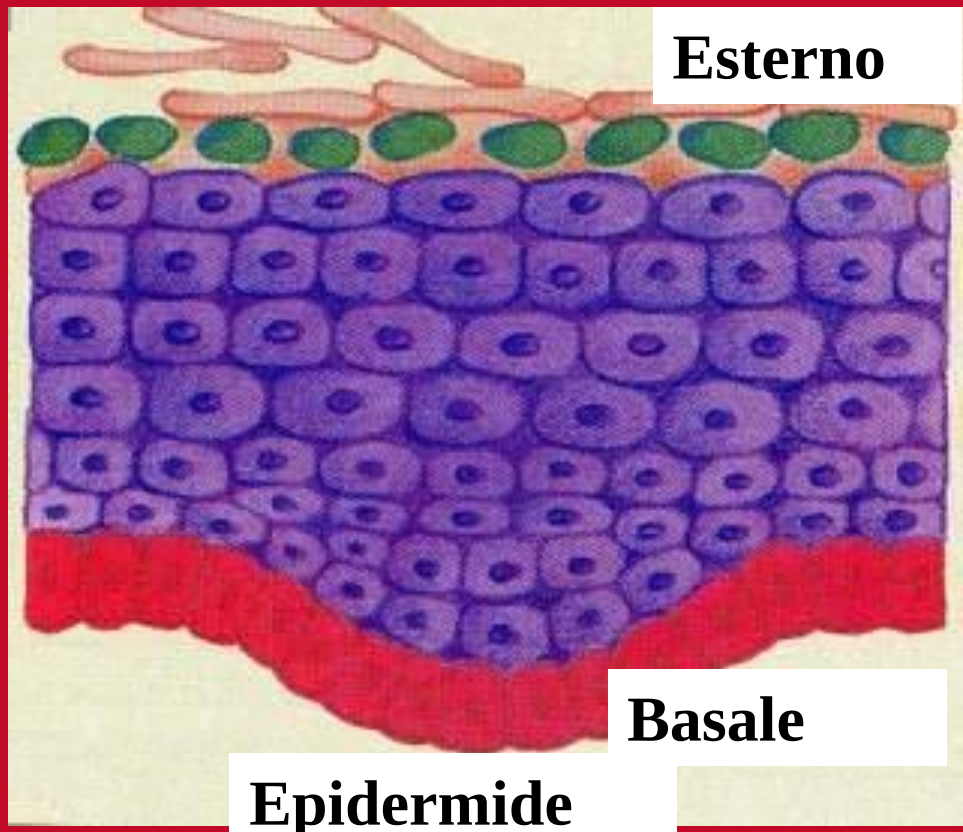
Epidermide: strato basale (organizzazione in clusters)
strato spinoso e granulare
follicoli piliferi (porzione esterna)

Derma: follicoli piliferi
cellule non follicolari

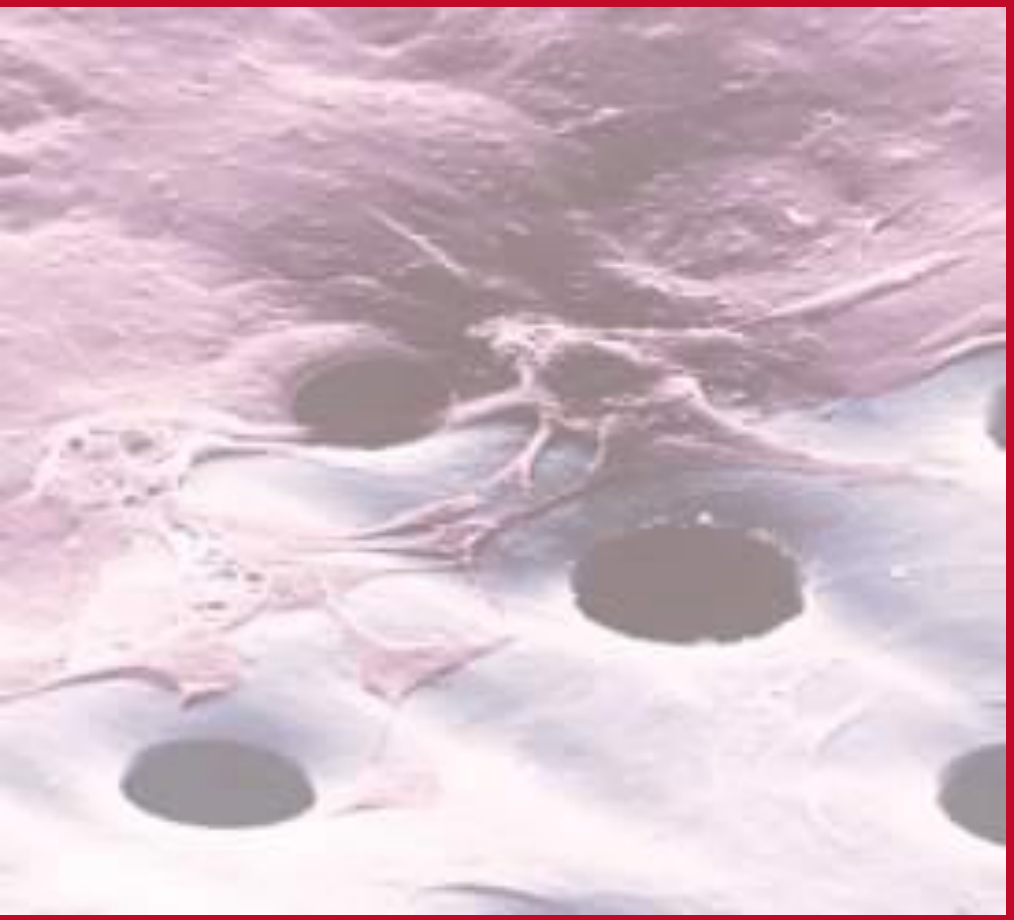
Le stem cells del derma possono dare origine:
-cellule neuronali (neuroni e glia)
-derivati del mesoderma (osteociti, condrociti, cellule muscolari e adipociti)
-cellule ematopoietiche

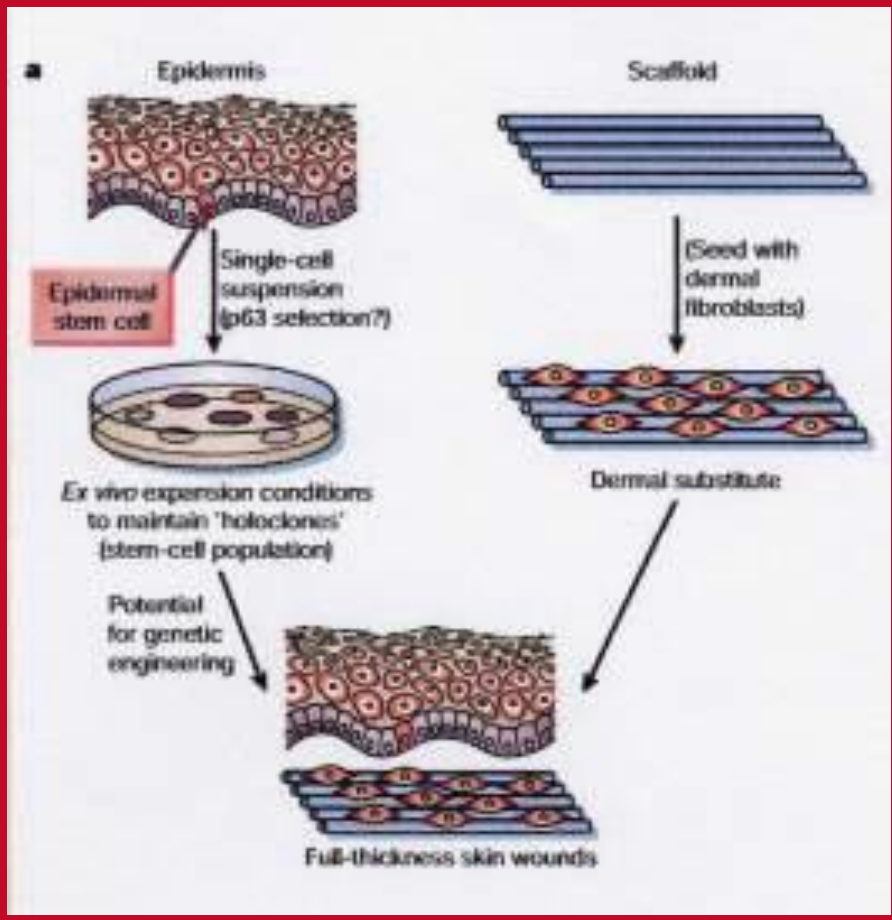
Cellule Staminali dell’epidermide

Lo strato basale, contiene le cellule proliferanti che migrano verso gli strati superiori dove vanno incontro a differenziamento che porta alla formazione di cellule terminali prive di nucleo.



Cellule staminali ed ingegneria dei tessuti





- fibrina + fibrina

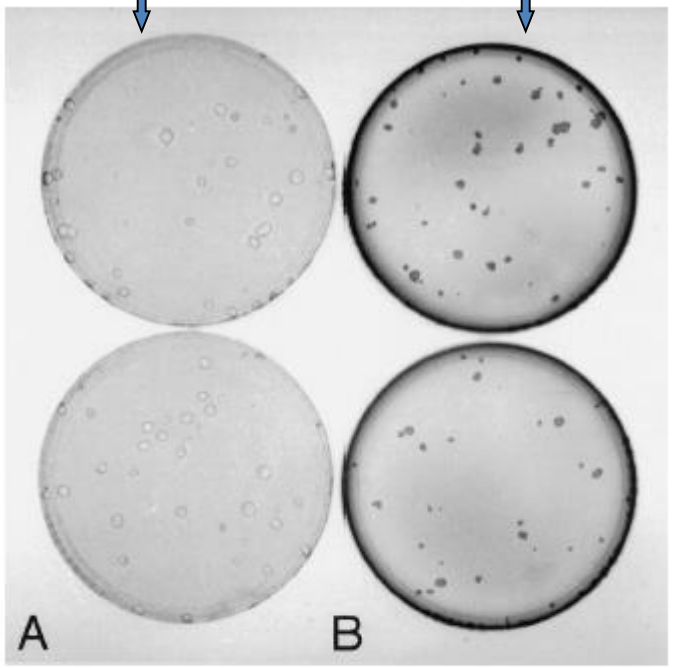


FIGURE 2. Colony-forming efficiency of human keratinocytes grown on a fibrin matrix. One hundred human keratinocytes (strain YF29, culture V) were plated onto 100-mm Petri dishes containing lethally irradiated 3T3 cells, in the absence (A) or presence (B) of a fibrin matrix. Cells were cultured for 12 days and were then fixed and stained with Rhodamine B (A) or Nile Blue (B). The presence of a fibrin matrix did not affect the clonogenicity of the keratinocytes. Similar numbers of colonies (54) were obtained with or without the fibrin matrix. A similar result was obtained with other strains of human keratinocyte. Colonies cultured on a fibrin matrix were less regular in shape and smaller than the control colonies.

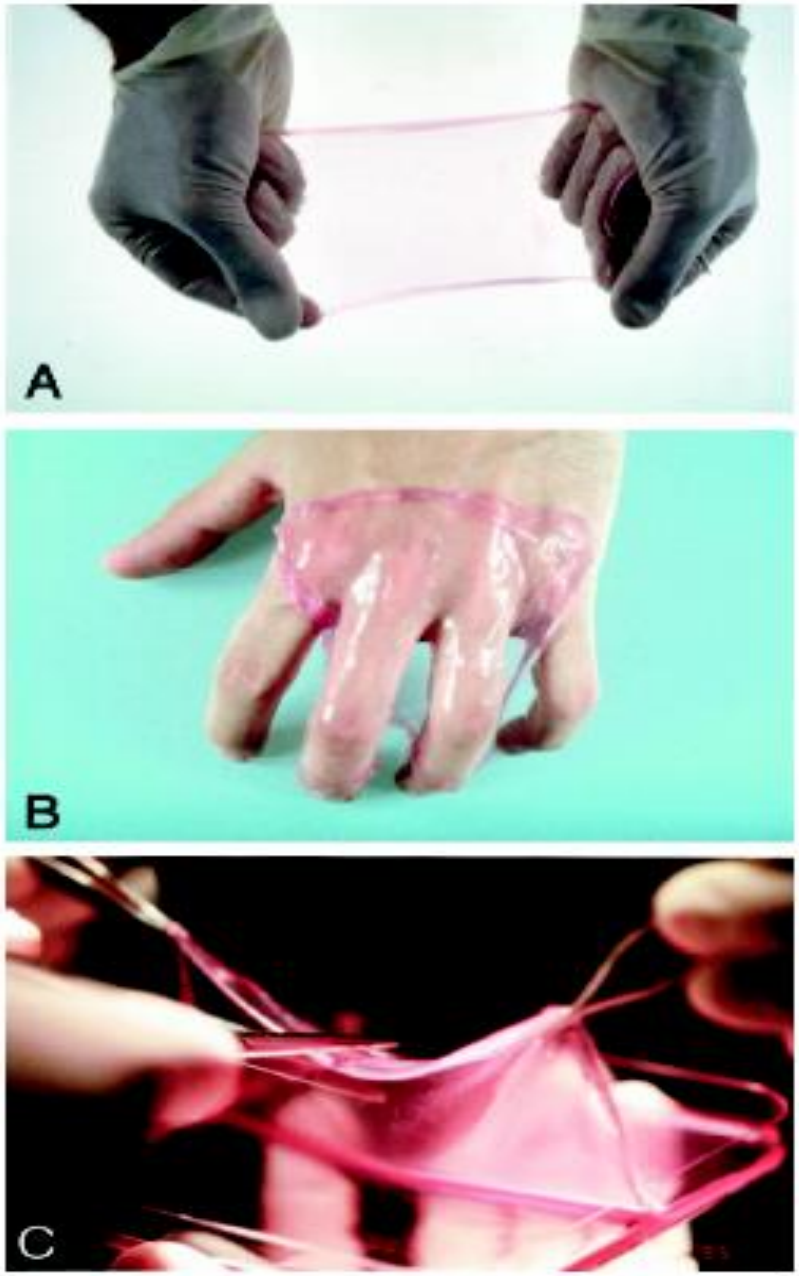


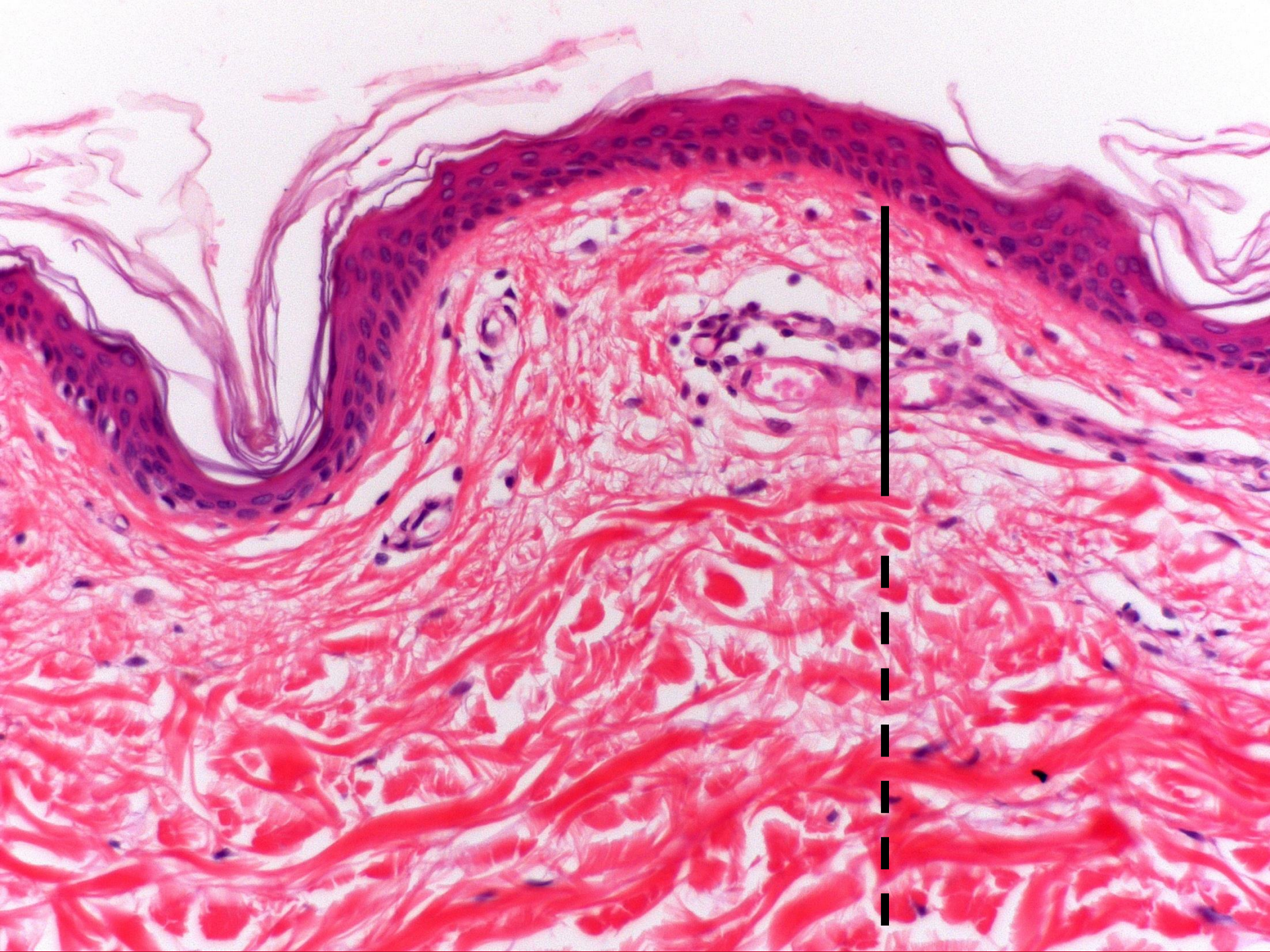
FIGURE 1. Appearance of a cultured epithelium grown on a fibrin matrix. A cultured epithelium grown on a fibrin matrix was detached from the culture dish using two thin forceps. Note its transparency, its molding properties and the ease of handling.

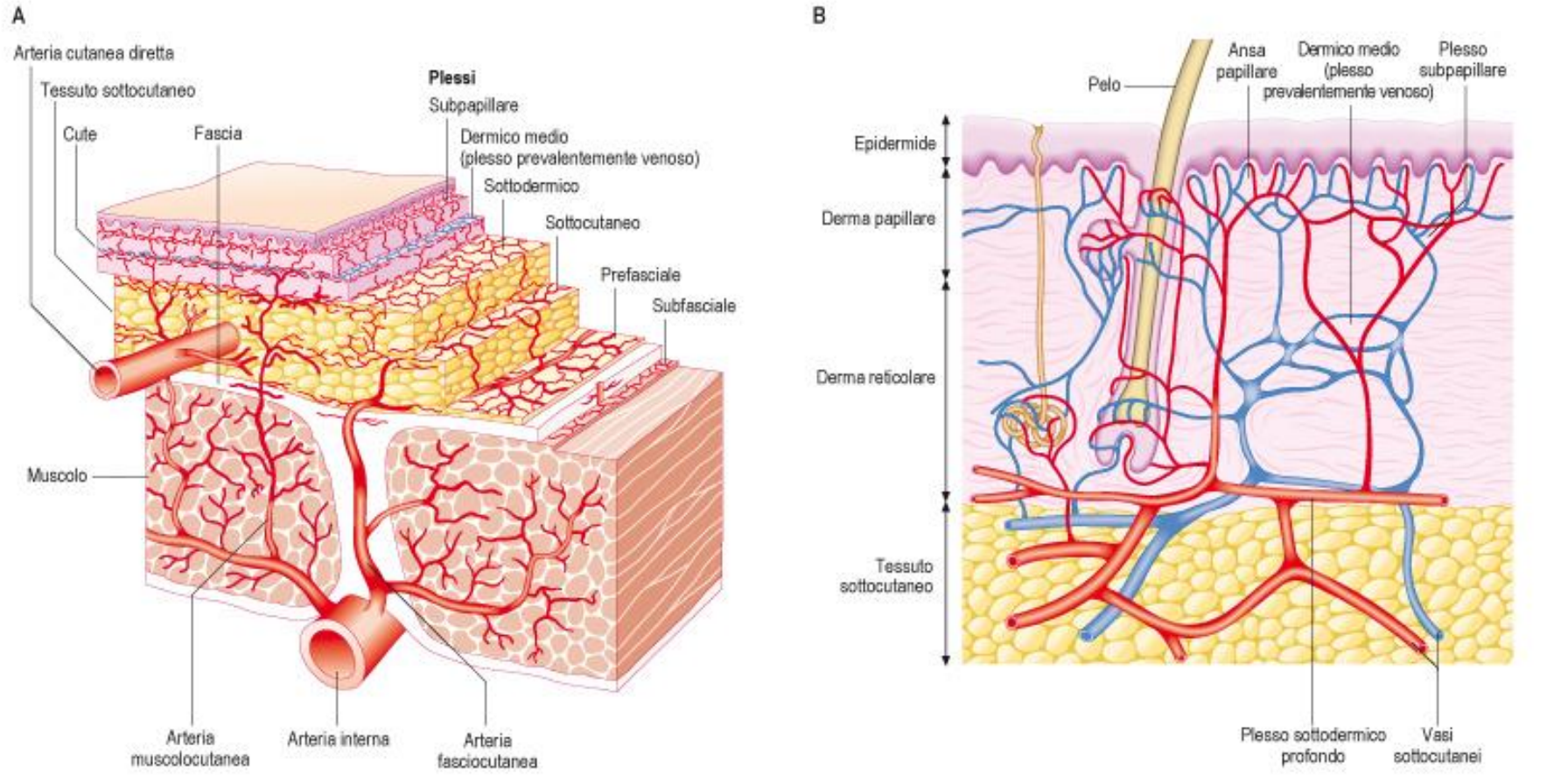
LAMINE DI CHERATINOCITI

- La sopravvivenza cellulare è direttamente correlata con le condizioni del letto ricevente.

- In particolare, la presenza di uno strato dermico ne incrementa la sopravvivenza

Fibroblasti | **ECM** | **Micro-vascolarizzazione**




A
Arteria cutanea diretta
Tessuto sottocutaneo
Cute
Fascia
Plessi
Subpapillare
Dermico medio
(plesso prevalentemente venoso)
Sottodermico
Sottocutaneo
Prefasciale
Subfasciale
Muscolo
Arteria muscolocutanea
Arteria interna
Arteria fasciocutanea
B
Pelo
Ansa papillare
Dermico medio (plesso prevalentemente venoso)
Plesso subpapillare
Epidermide
Derma papillare
Derma reticolare
Tessuto sottocutaneo
Plesso sottodermico profondo
Vasi sottocutanei