



# KOZMETIČNI IZDELKI I

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## **KOŽA IN SLUZNICE – MESTO DELOVANJA KOZMETIČNIH IZDELKOV**

prof. dr. Julijana Kristl

10. 10. 2012



# Kaj že veste o koži ?

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## Z gledišča

- anatomije
- morfologije
- fiziologije
- biokemije



# Zgradba kože

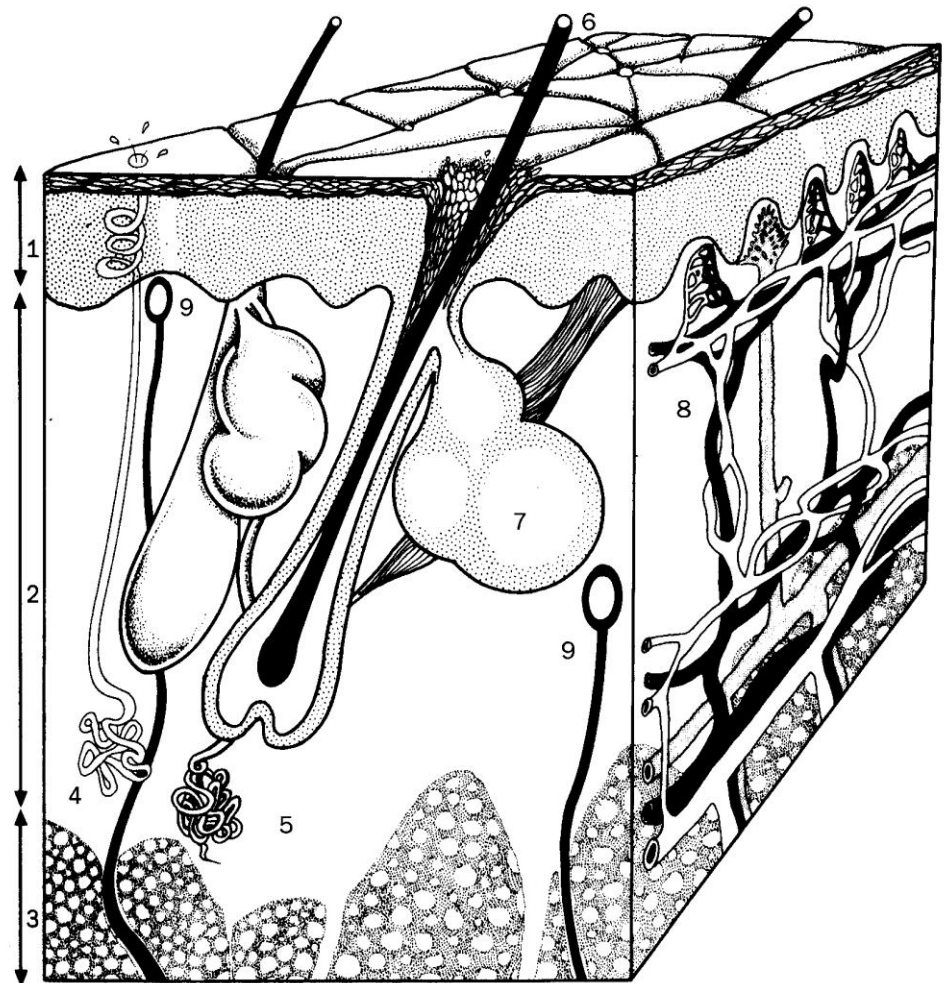
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- Epidermis - povrhnjica
- Dermis - usnjica
- Subcutis - podkožje
- Kožne žleze
- Lasje
- Nohti

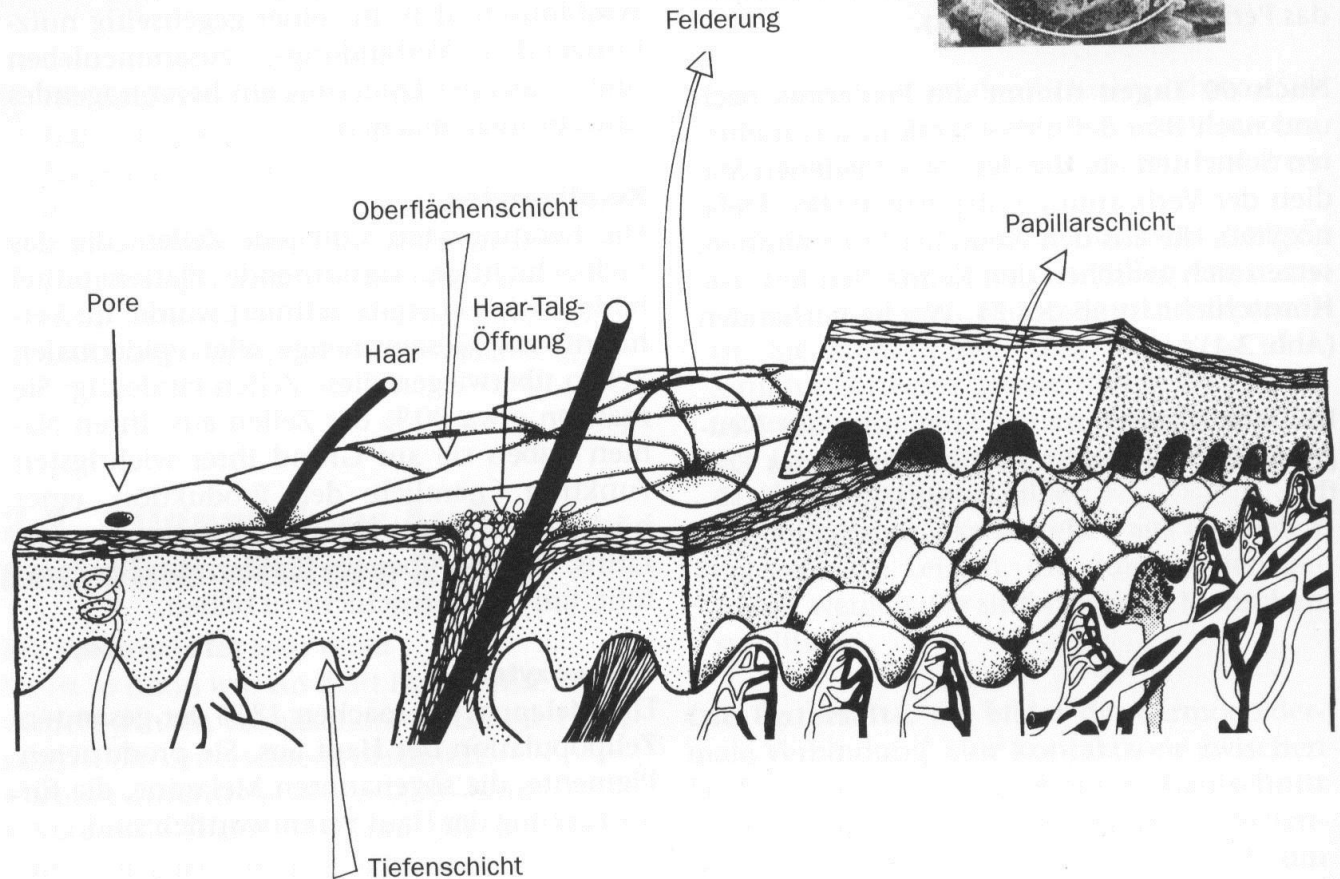
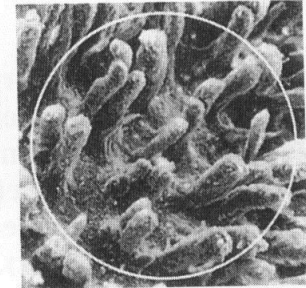
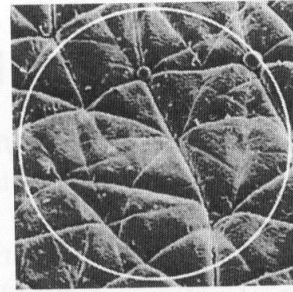
# Shematski prikaz zgradbe kože

1-povrhnjica, 2-usnjica,  
3-podkožje, 4-ekrina znojnica,  
5-apokrina znojnica, 6-las,  
7-lojnica.

Usnjica je prepletena s  
številnimi žilami-8 in  
živci-9.

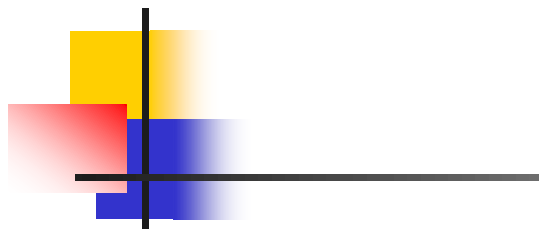


# EPIDERMIS

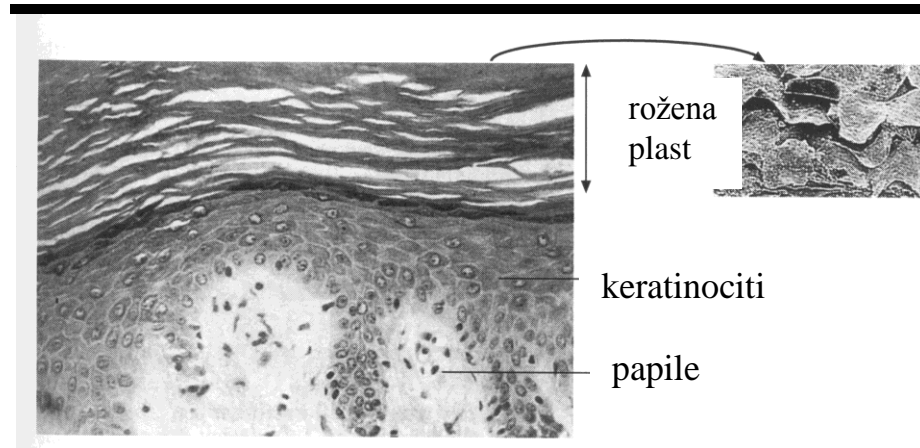


Zgradba povrhnjice – gube in papile

# Celična zgradba povrhnjice

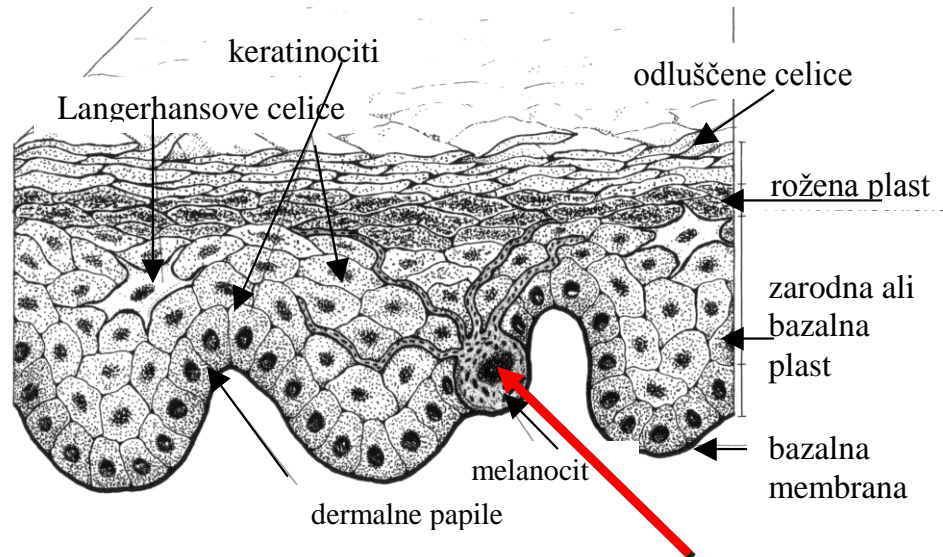


a- Vrhnica pod svetlobnim mikroskopom



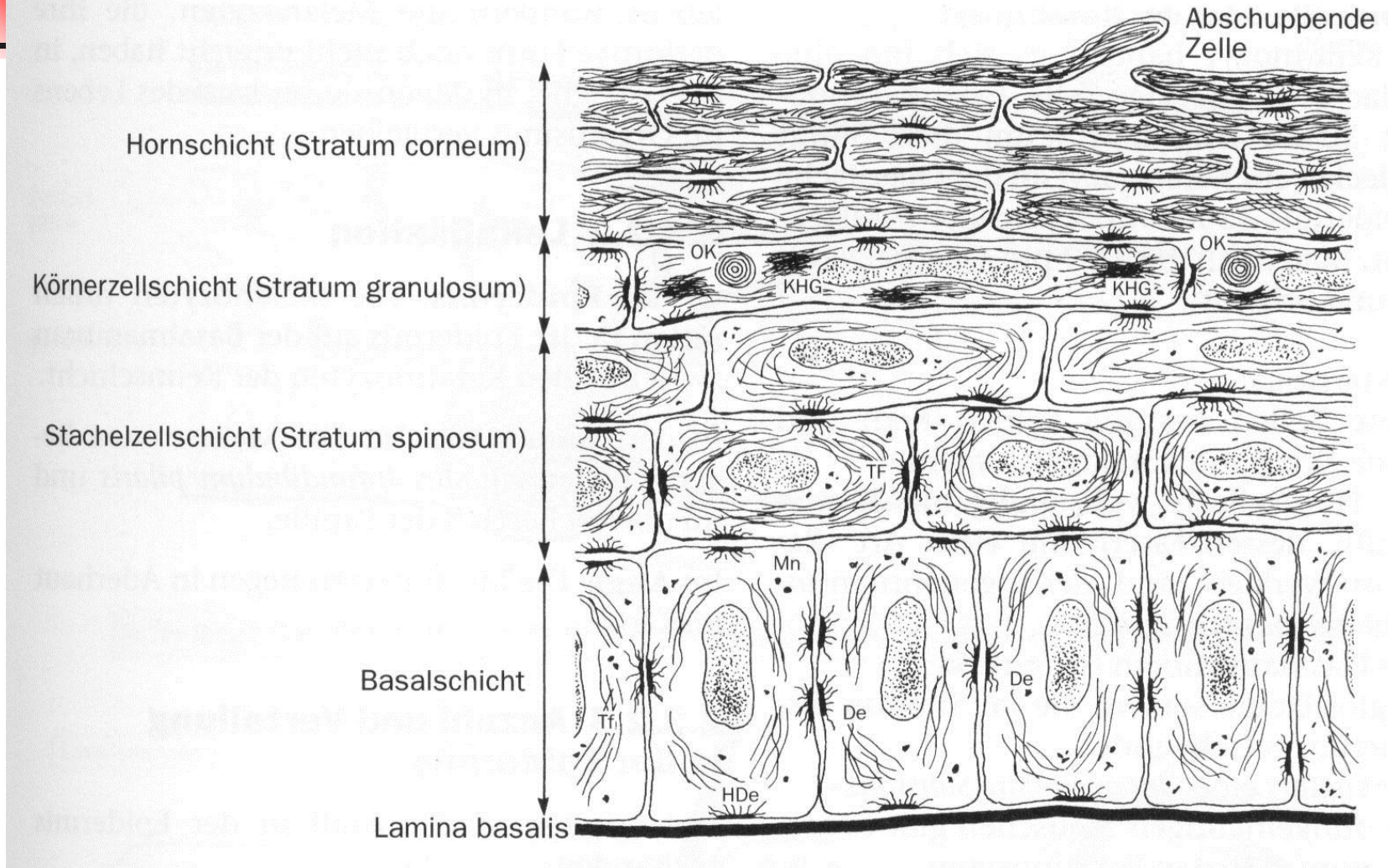
a

b- Shematska predstavitev mikroskopskega posnetka

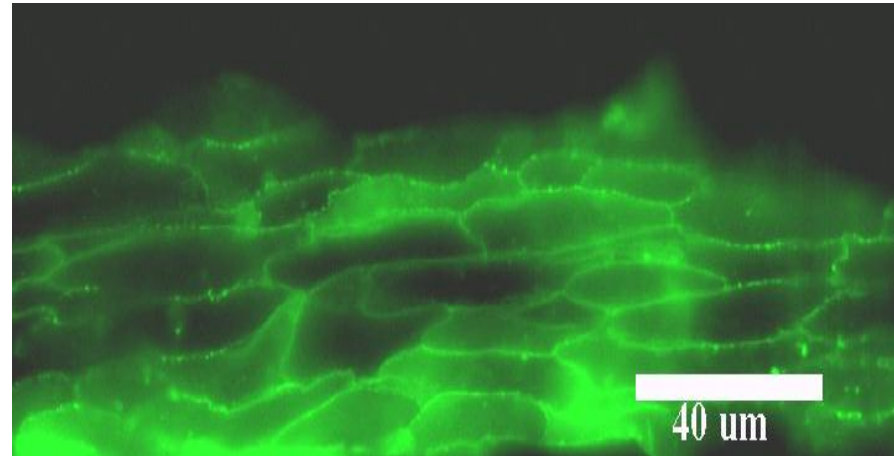
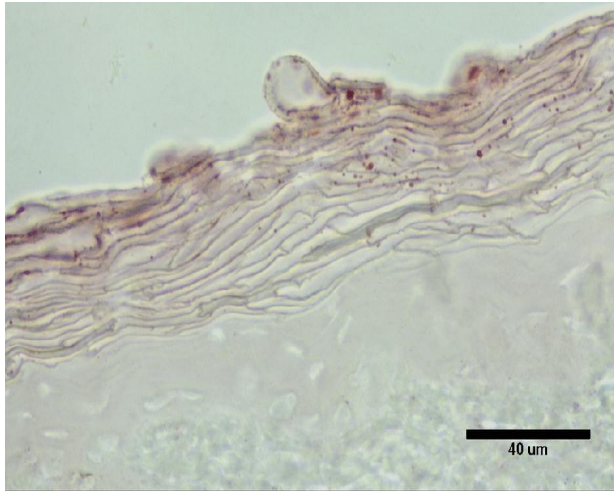
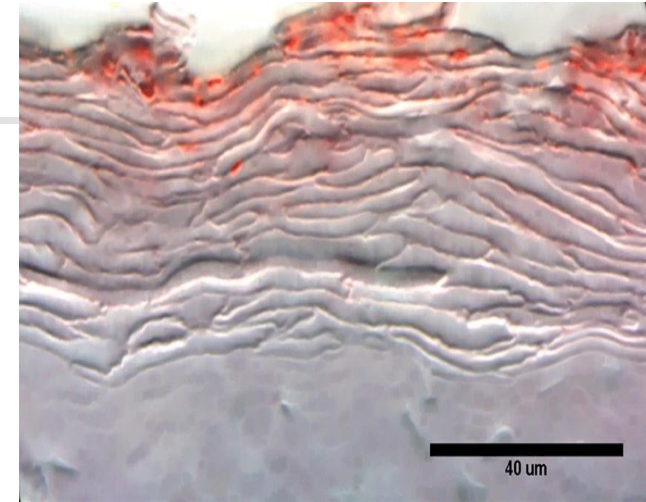
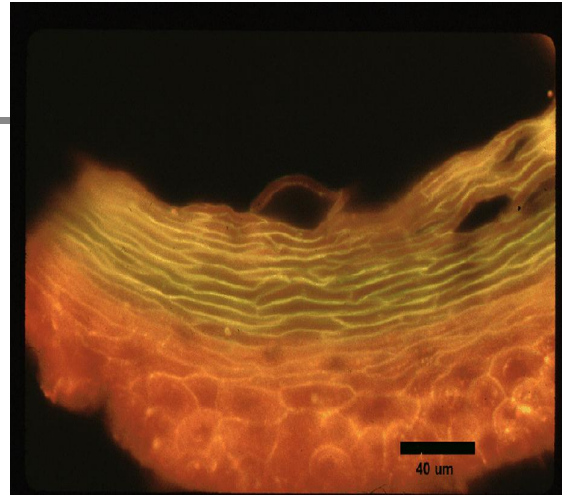
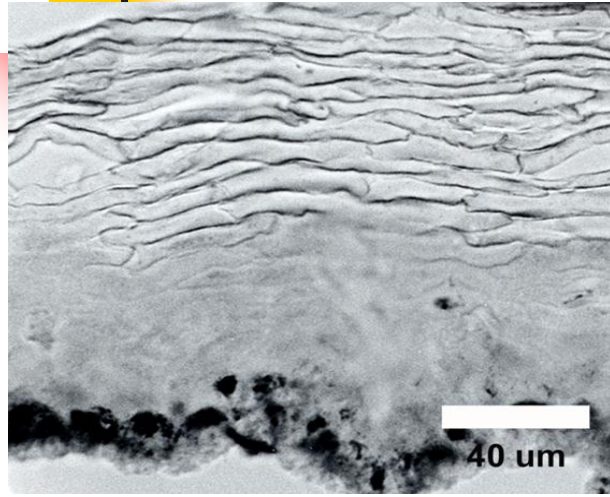


b

# Keratinociti v različnih plasteh povrhnjice



# Mikroskopske slike povrhnjice



\* različna barvanja



# Plasti epidermisa

Intercelularne lamele

Keratinsko polnilo

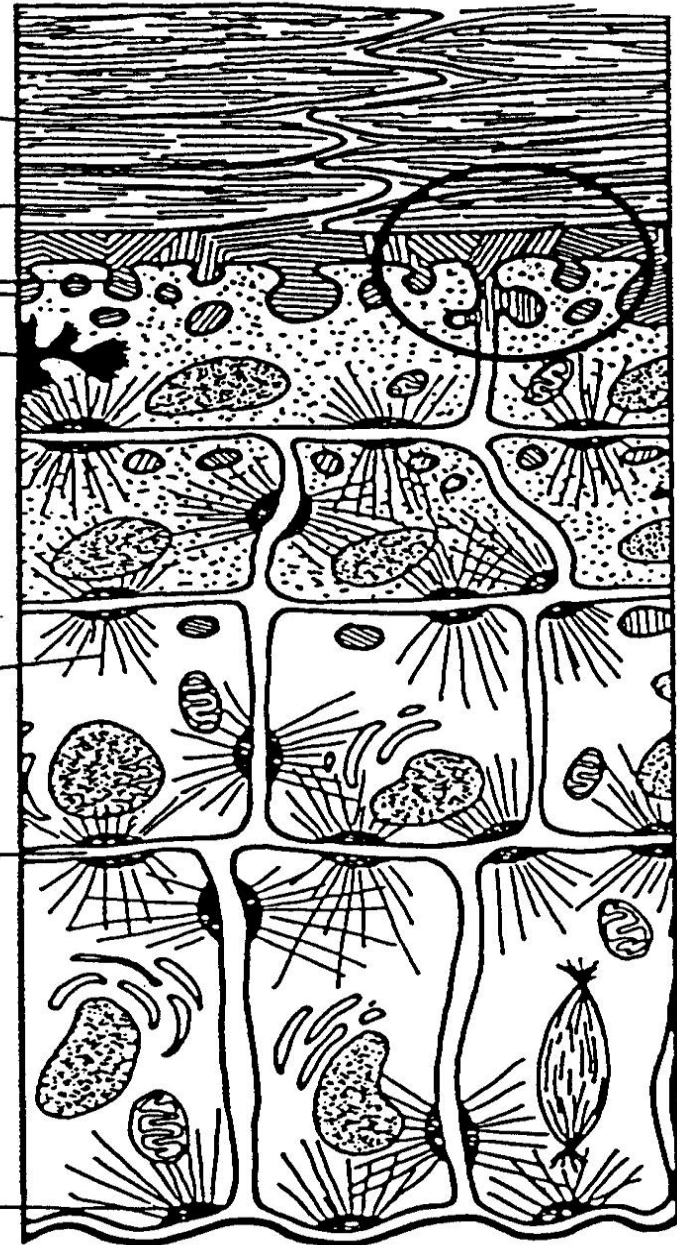
Lamelarna telesa

Keratohialin

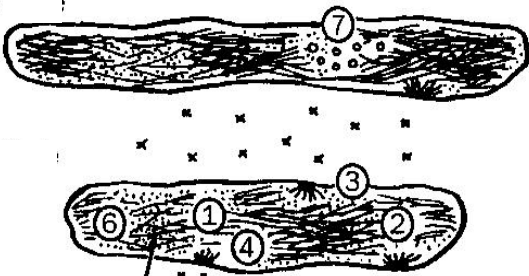
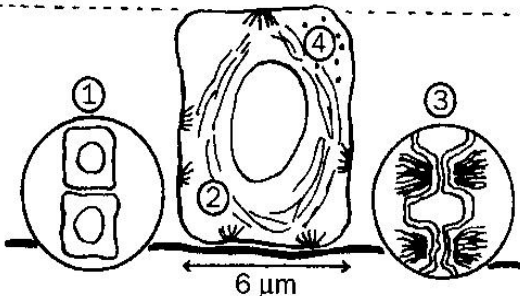
Keratinsko polnilo

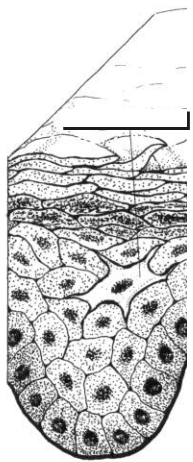
Desomosomi

Hemidesmosomi



# Epidermalna keratinizacija = programirana celična smrt?

Oznaka celice	Značilnost celice	Sestava	faze diferenciranja
rožene celice 4-6 plasti → rožena plast	1 brez jeder in organel 2. s keratinom napolnjene celice (K) 3. debela membrana 4. desmosomi 5. lipidne intercelularne plasti 6. interfibrilarni cement 7. naravni vlažilni faktorji		III faza luščenja
celice z zrci 3-4 plasti → zrnata plast	1 keratinolinska zrnca (KHG) 2. Odlanova telesa (OK) 3. zlepljene tonofibrili		II prehodna faza
5-6 plasti → trnasta plast	1 citoplazmotski nastavki 2. tonofibrili (Tf) 3. melanosomi		I faza sinteze proteinov in lipidov
bazalne celice → 1 plast	1 se lahko delijo 2. Tonofilamenti (Tf) 3. citoplazemski nastavki z desmosomi 4. melanosomi  bazalna membrana		





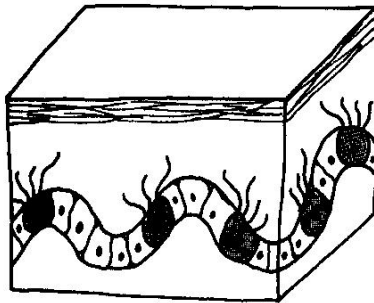
# Kaj so melanociti?

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- porazdelitev
- zgradba
- vloga

# Kje vse najdemo melanocite v koži?

Lokalisationen

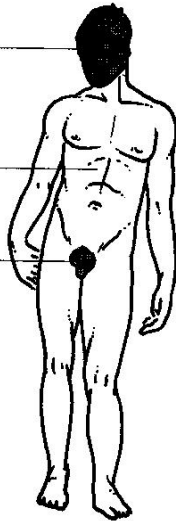


1. In der Epidermis  
zwischen den  
Keimzellen

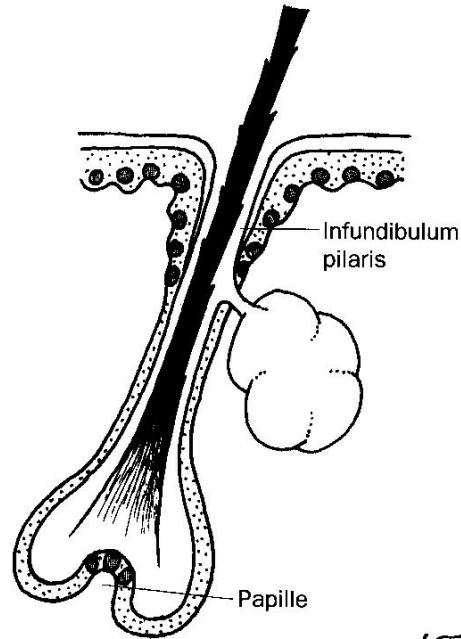
2000/mm<sup>2</sup>

1500/mm<sup>2</sup>

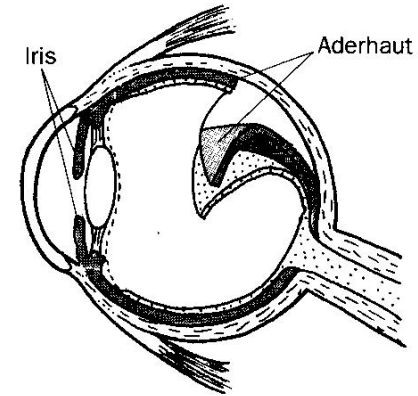
2400/mm<sup>2</sup>



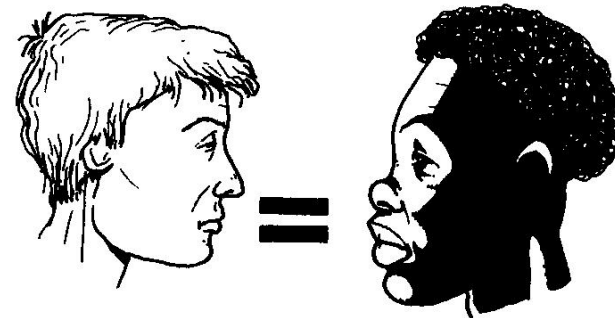
Verteilung in der Haut



2. Im Haar-  
Talg-Follikel

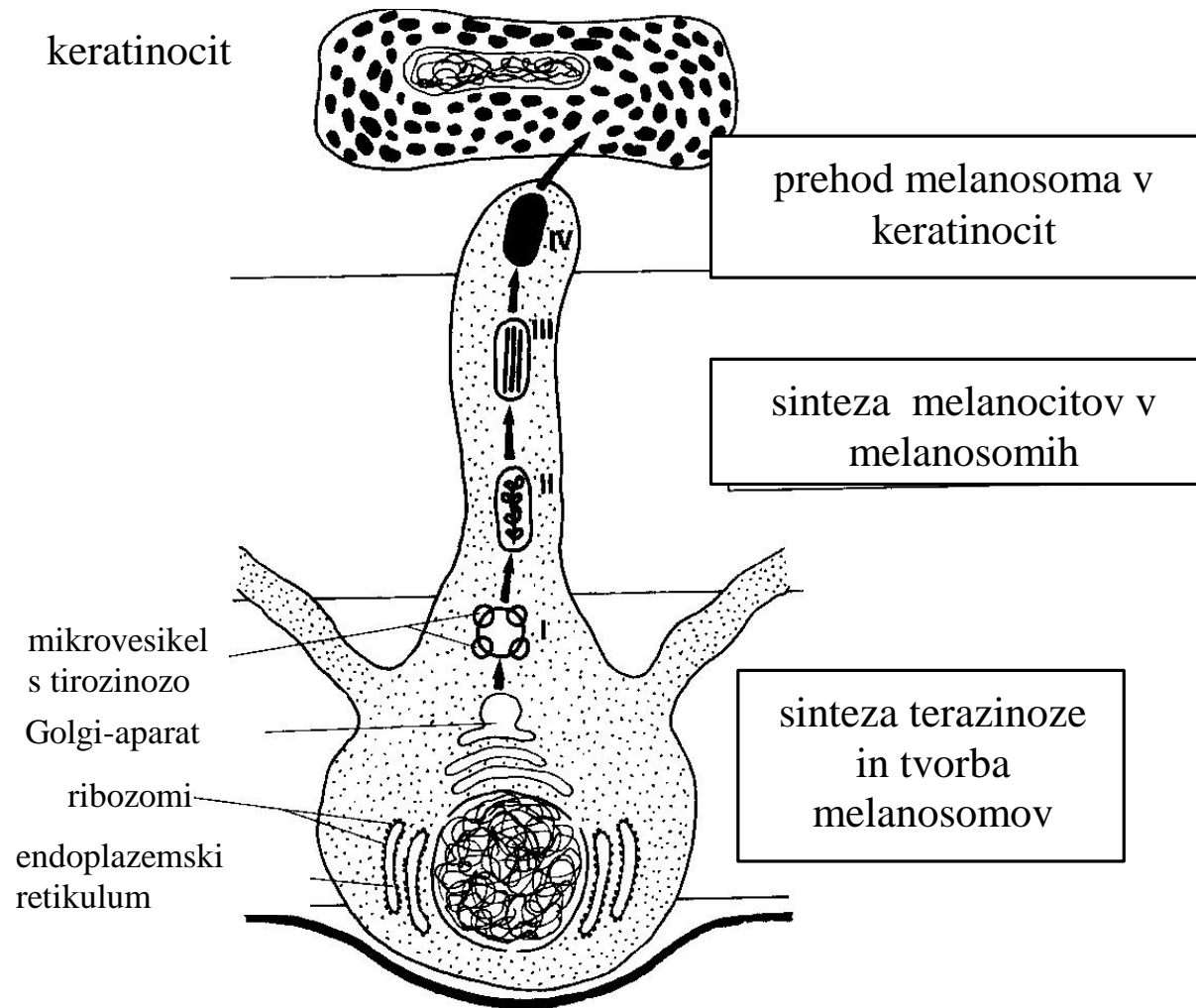


3. Im Auge



Anzahl. Die Farbe der Haut spielt keine Rolle.

# Različne stopnje melanogeneze



# Odločilni dejavniki za barvo kože

**Tabelle 2-1:** Die Bestimmungsparameter für die Farbe der Haut

		Hellhäutige Menschen		Dunkelhäutige Menschen
<b>Melanosomen</b>	Größe	Klein		Groß
	Verteilung	Bis zur dritten Lage der Stachelzellschicht		Alle Schichten
	Produktion	Stimulation durch UV-Strahlen erforderlich		Ständig mit oder ohne Sonne
<b>Qualität des Melanins</b>	Phäomelanin+++	Eumelanin +++		

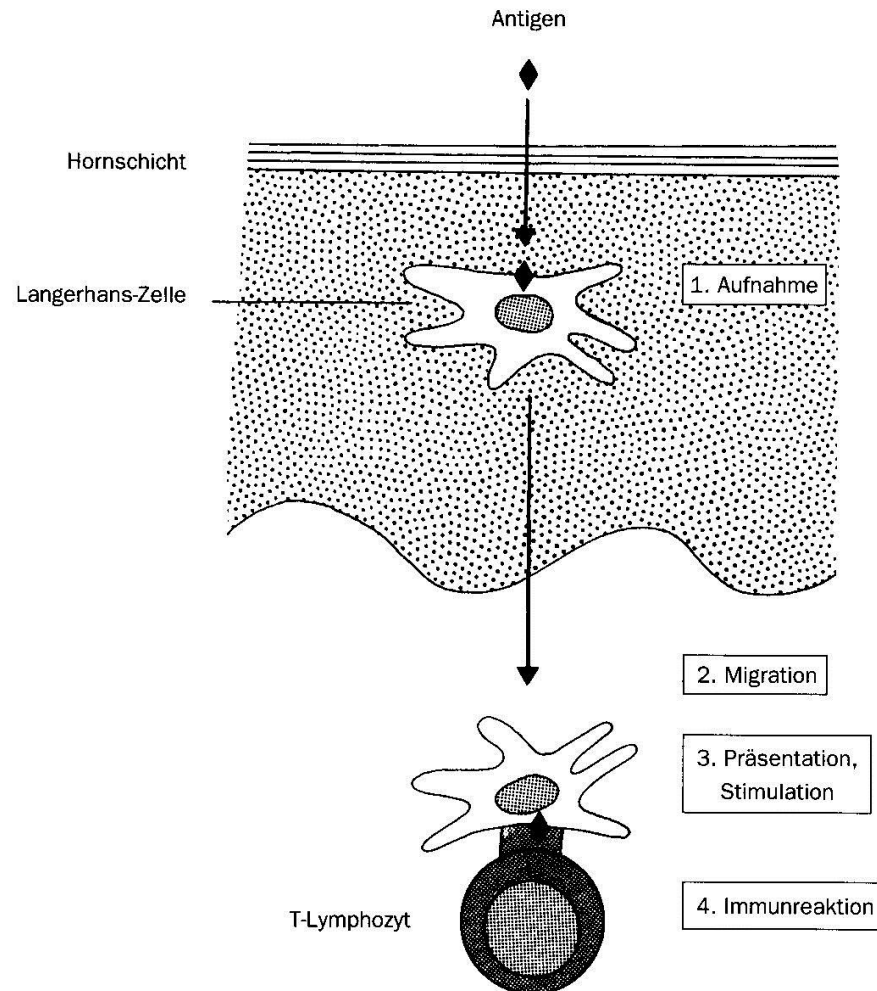


# Kaj so Langerhansove celice?

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- porazdelitev
- število
- pomen v koži

# Imunska kompetentnost Langerhansovih celic v koži





# DERMIS -USNJICA

celice

izvencelično  
ogrodnje

fibroblasti

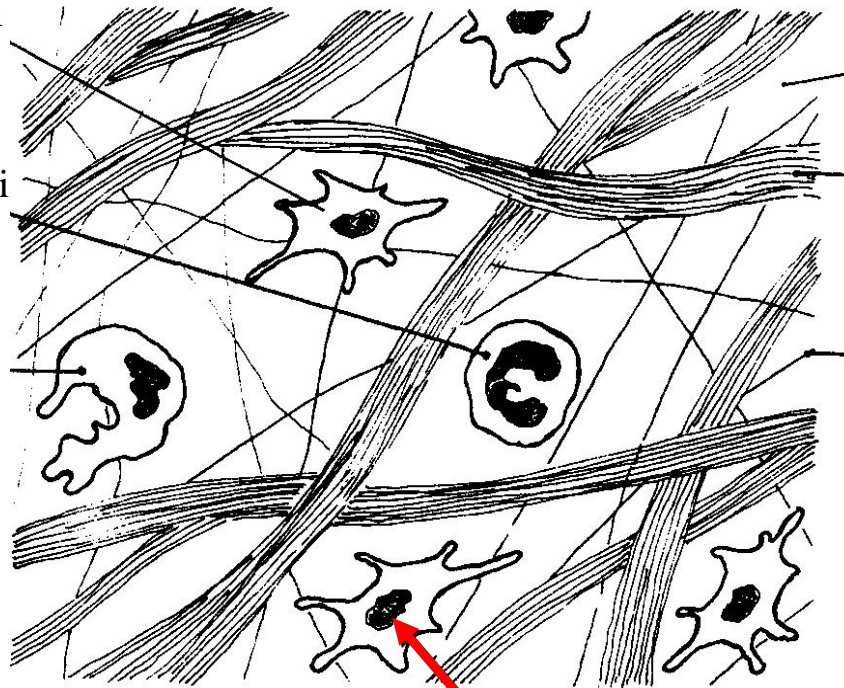
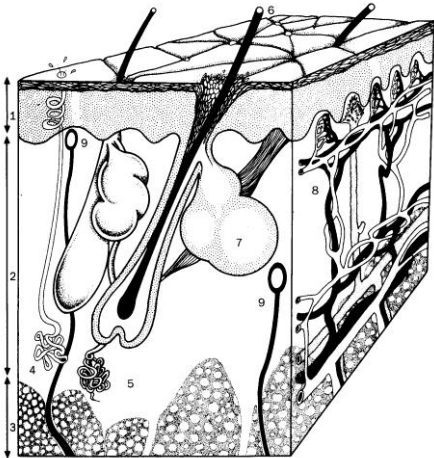
osnovna  
substancia

granulociti

kolagenska  
vlakna

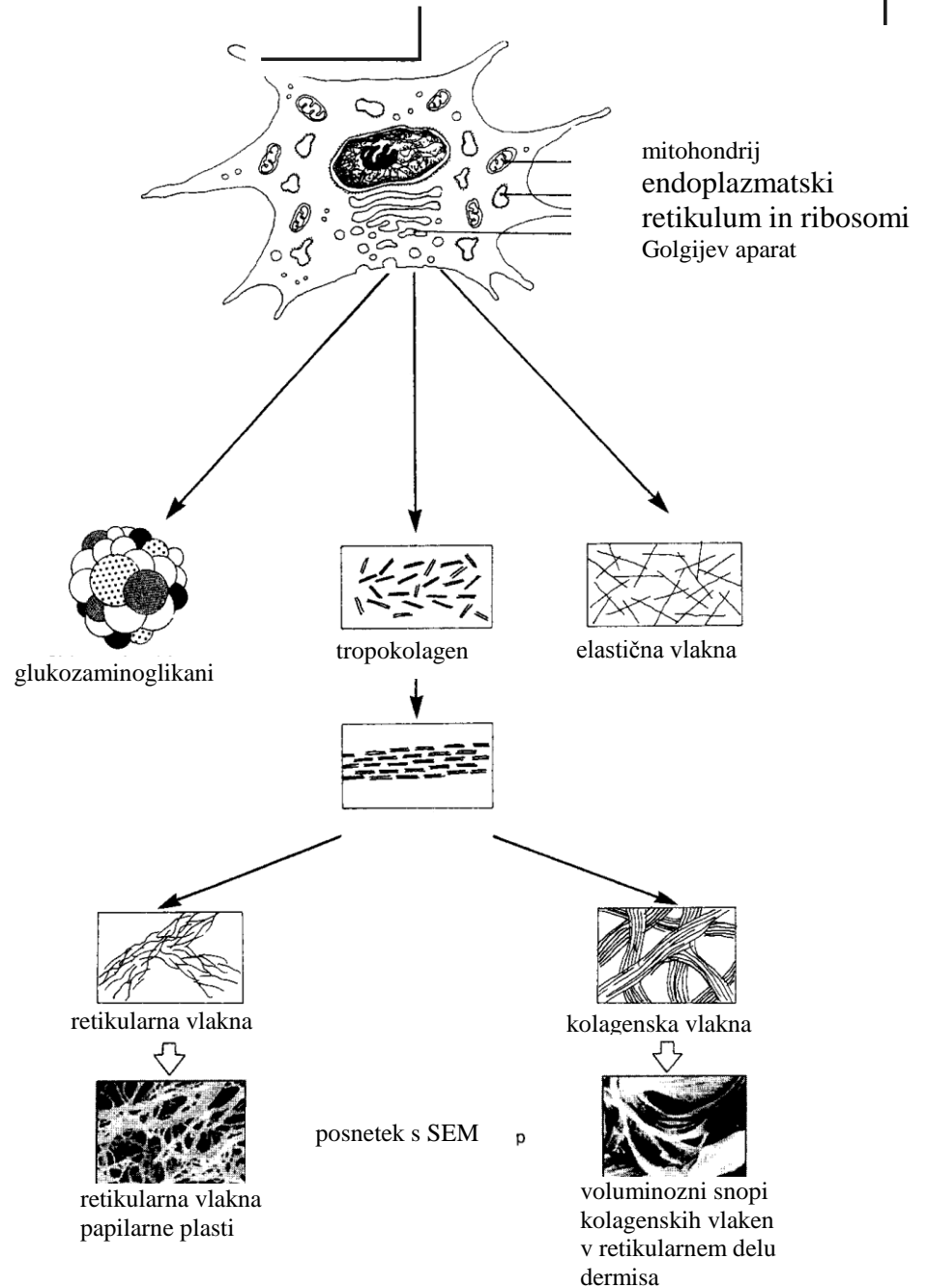
makrofagi

elastična  
vlakna

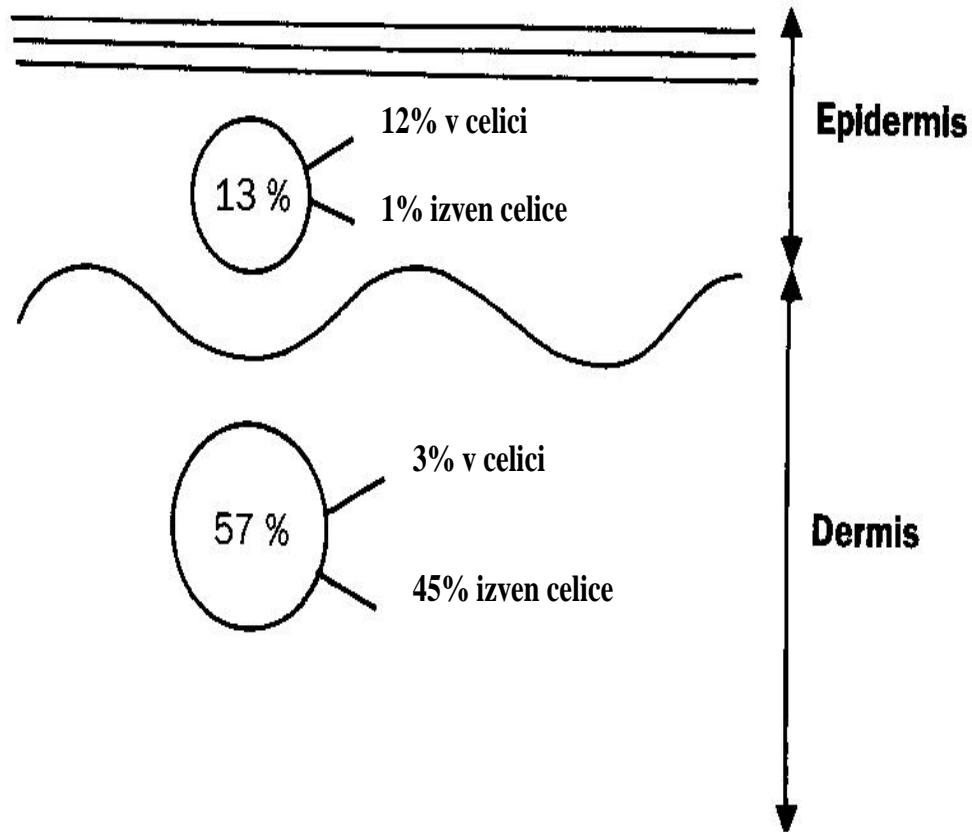




# Fibroblasti in njihove številne aktivnosti



# Količina vode v koži



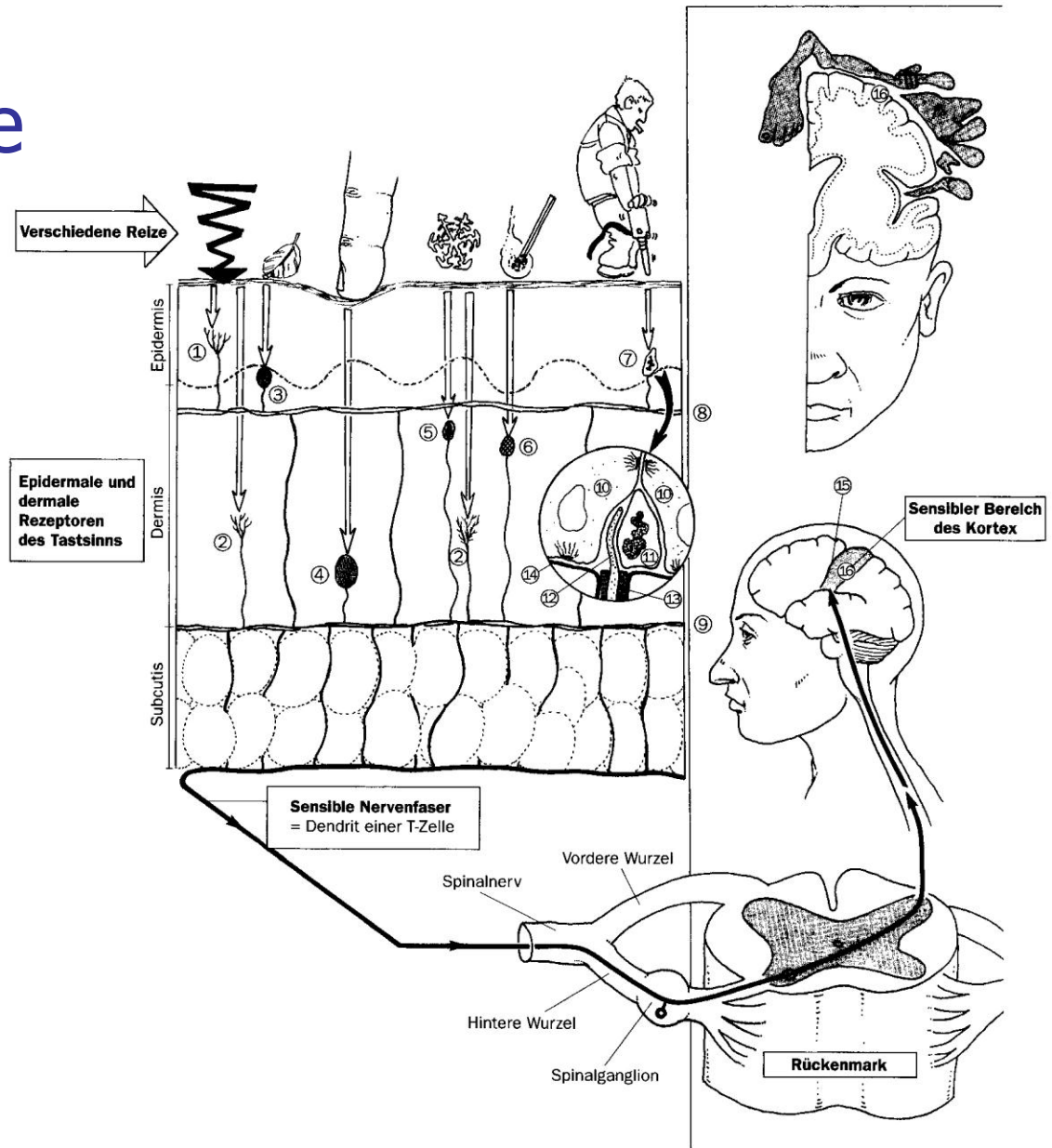


## Ali so v koži čutne celice?

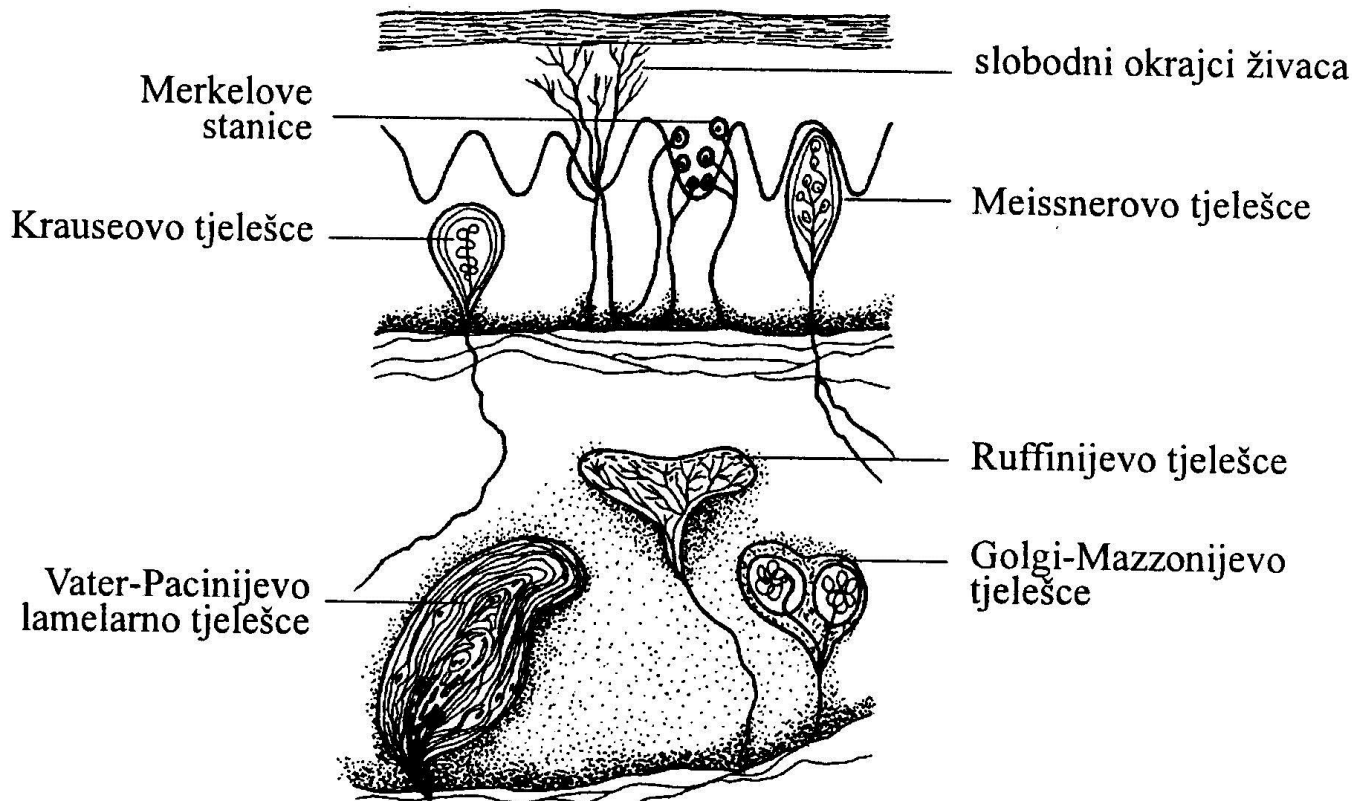
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- porazdelitev
- zgradba
- vloga

# Oživčenje kože



# Živčna telesa kože

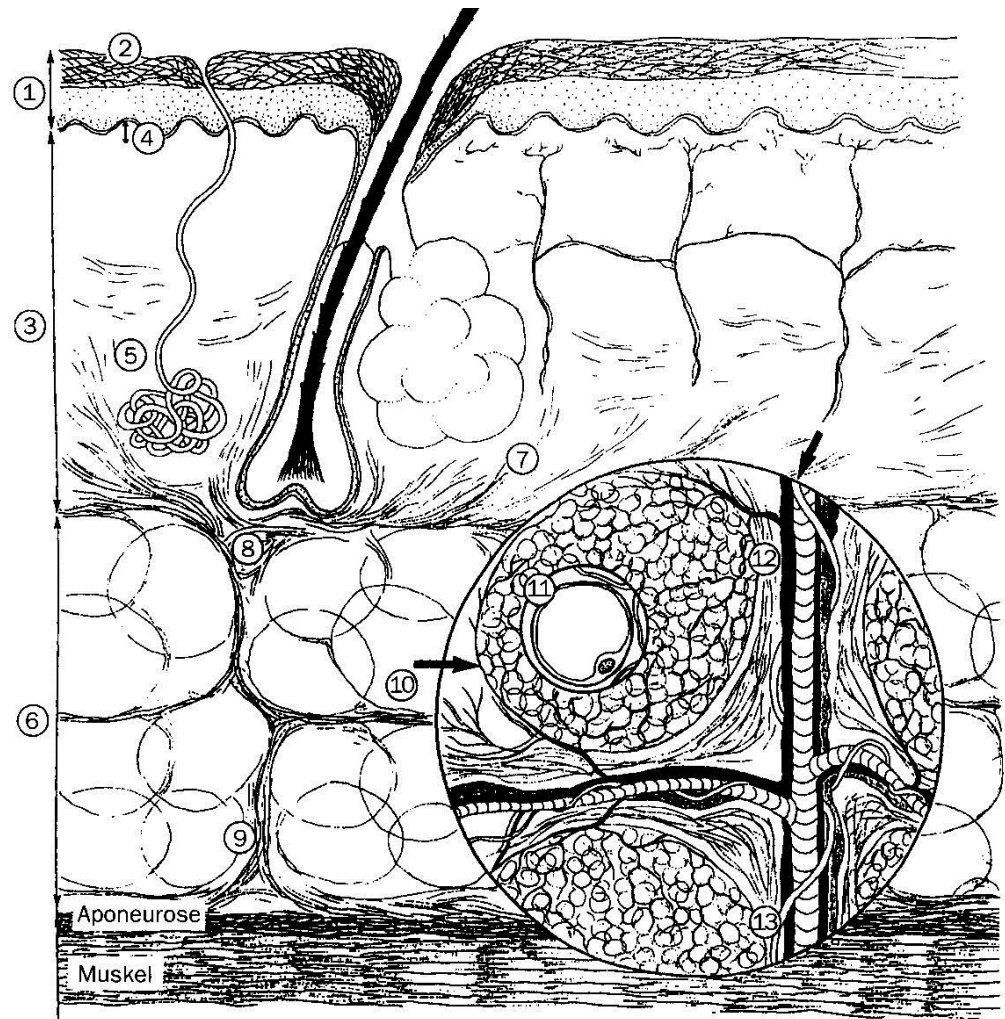




## Podatki o receptorjih v koži

Receptor	Osjet	Približan broj/cm <sup>2</sup>
Slobodni okrajci živaca	bol	200
Merkelove pločice	dodir	3000
Meissnerova tjelešca	pritisak	25
Krauseova tjelešca	hladnoća	12
Ruffinijeva tjelešca	toplina	2
Vater-Pacinijeva lamelarna tjelešca	pritisak i duboki senzibilitet	2
Golgi-Mazzonijeva tjelešca	pritisak	

# Struktura kože PODKOŽJE

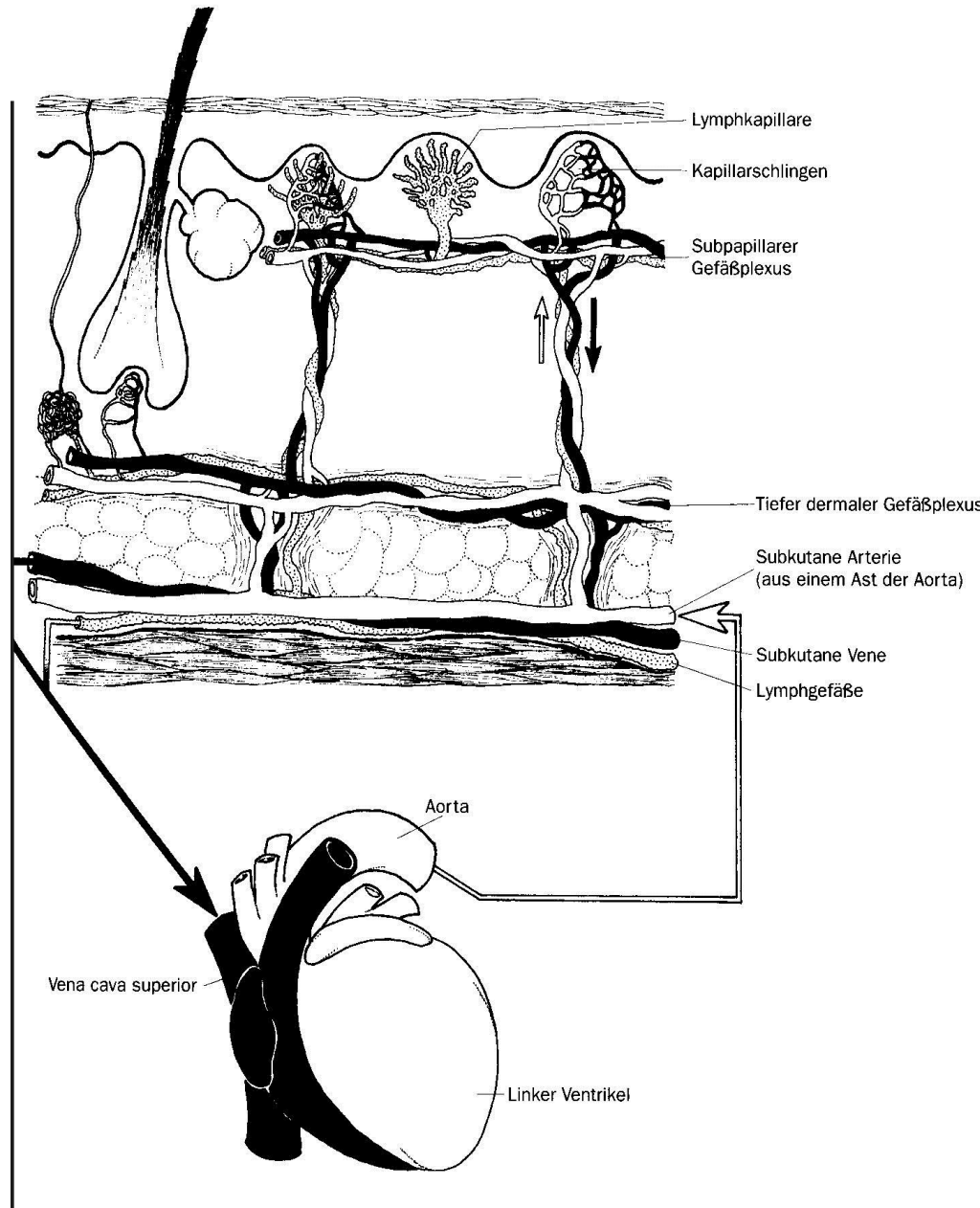


- 1 - Epidermis
- 2 - Hornschicht
- 3 - Dermis
- 4 - Papillarschicht der Dermis
- 5 - Retikularschicht der Dermis
- 6 - Subcutis
- 7 - Kollagenfaserbündel
- 8 - Kollagenfasern, die Lappen und Läppchen begrenzen

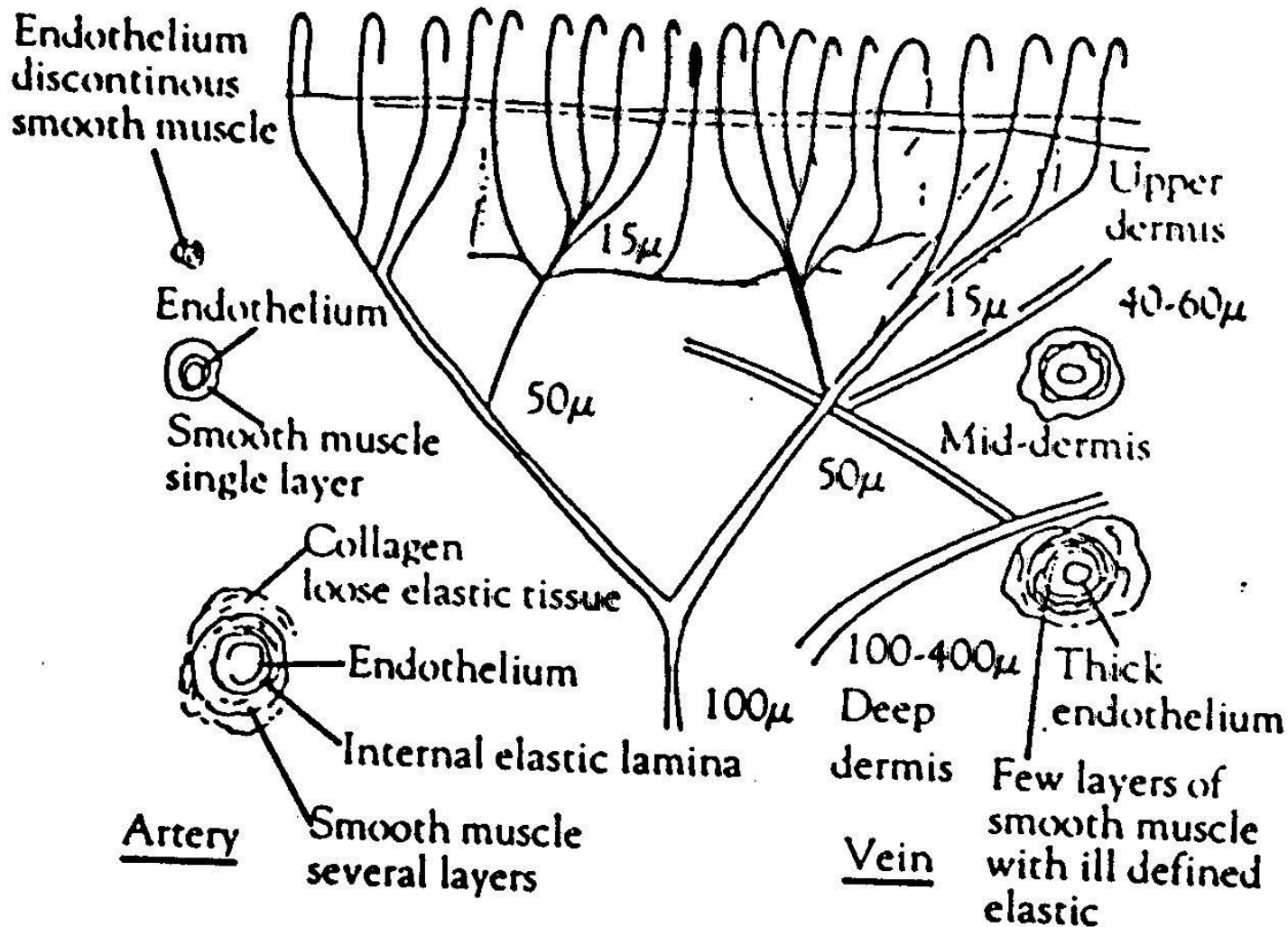
- 9 - Fettlappen
- 10 - Fettläppchen
- 11 - Adipozyten
- 12 - In den Scheidewänden zwischen den Lappen und Läppchen ist eine starke arterielle, venöse und lymphatische Vaskularisation vorhanden.
- 13 - Durch die Scheidewände verlaufen die sensorischen Nerven.



# Žilni sistem kože

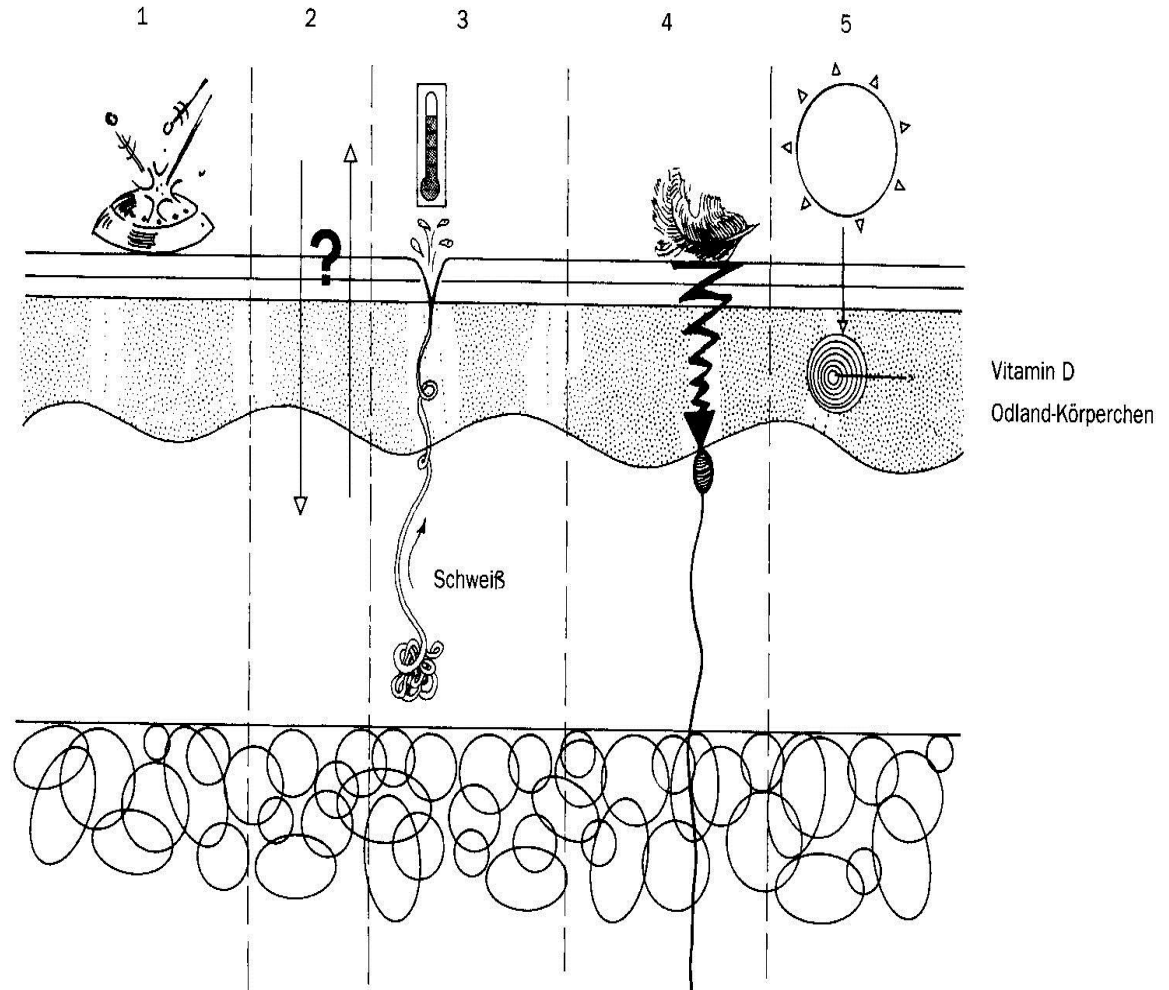


# Shematski prikaz oskrbe kože s krvjo



# Katere funkcije ima koža?

- 1 - zaščitna funkcija,
- 2 - izmenjevalna,
- 3 - termoregulacija,
- 4 - senzorične funkcije,
- 5 - metabolične funkcije



# Pomen različnih struktur kože pri zaščiti

**Einflüsse**

Hornschicht

**Epidermis**

**Dermis**

**Subcutis**

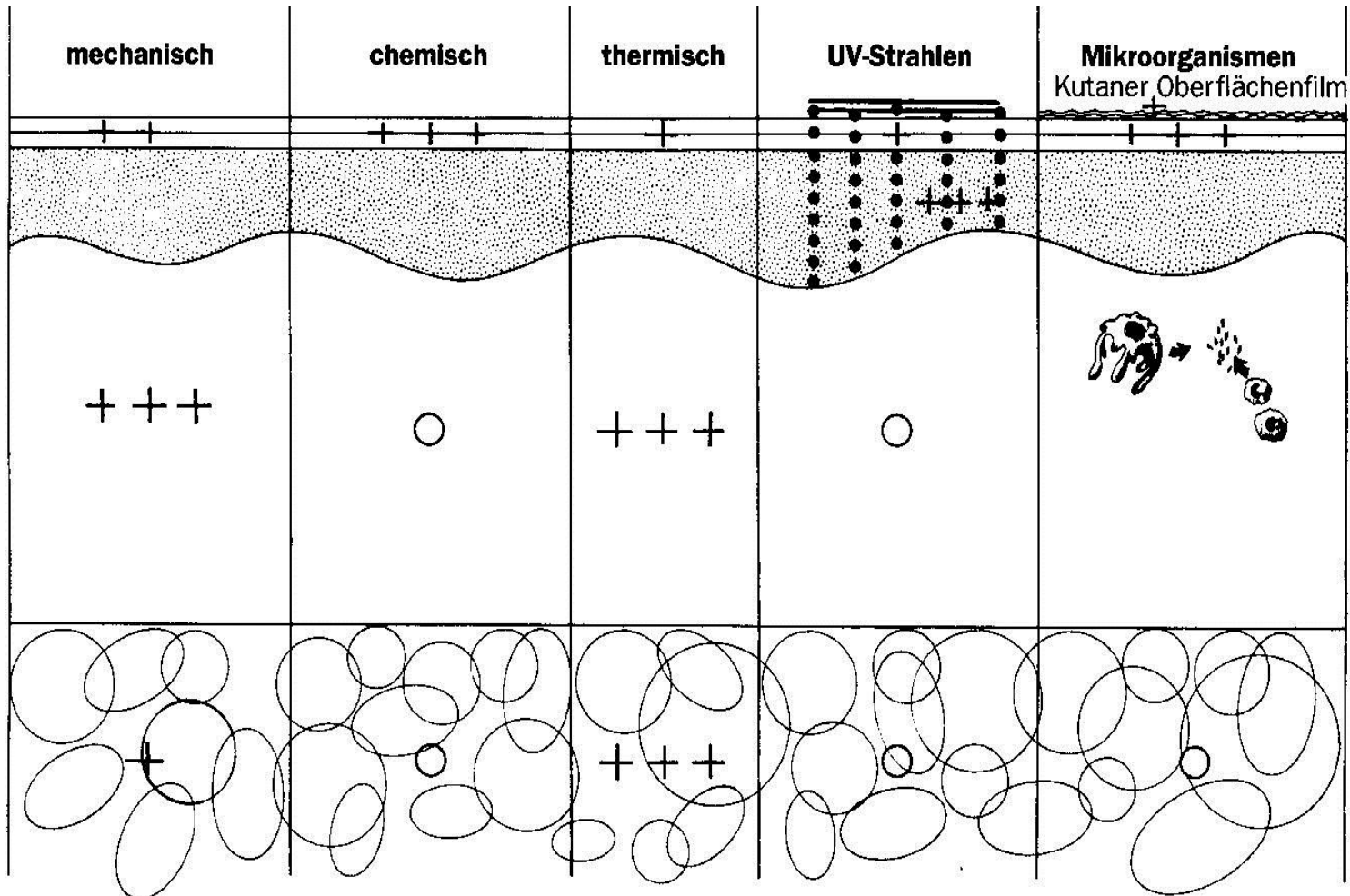
**mechanisch**

**chemisch**

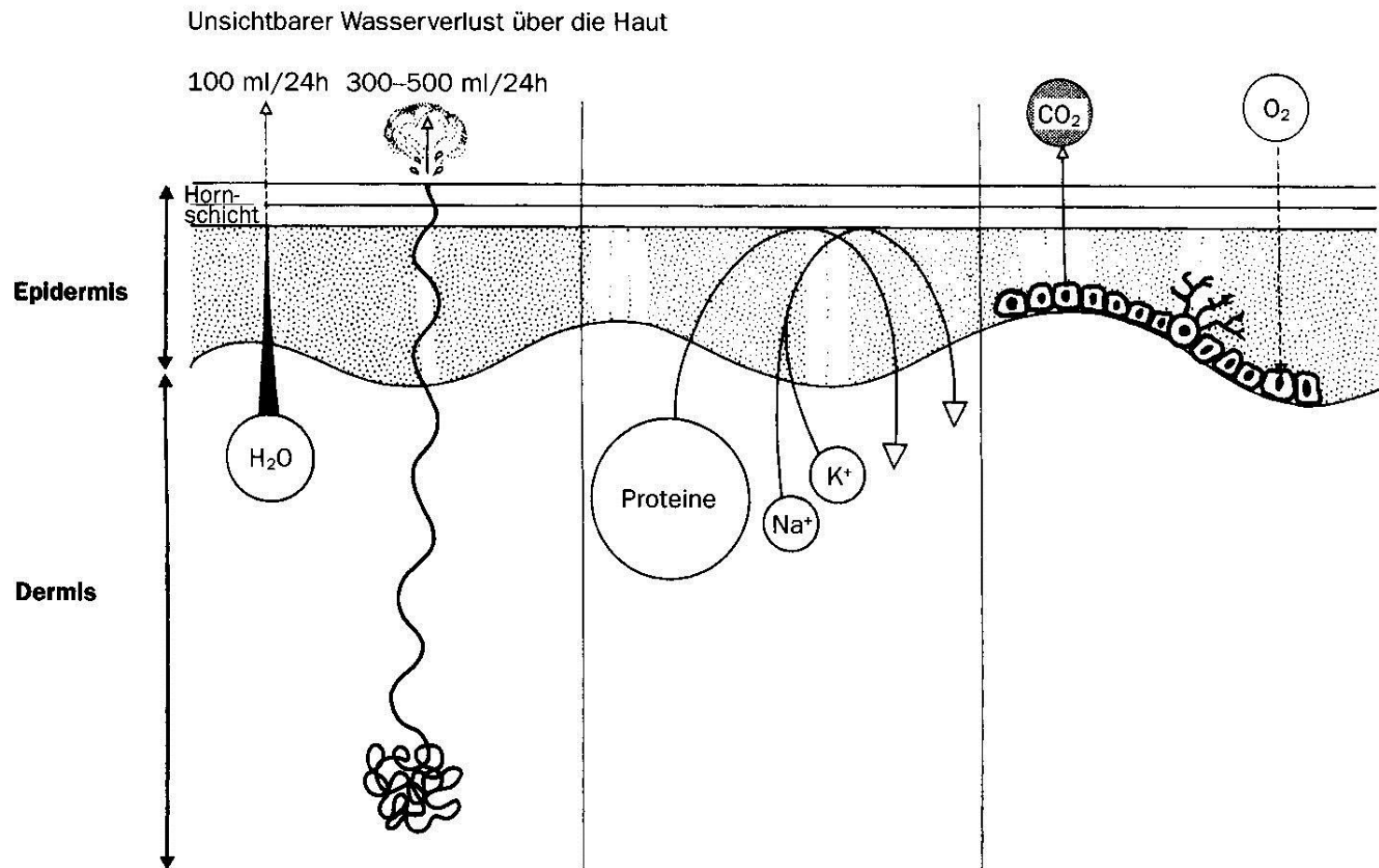
**thermisch**

**UV-Strahlen**

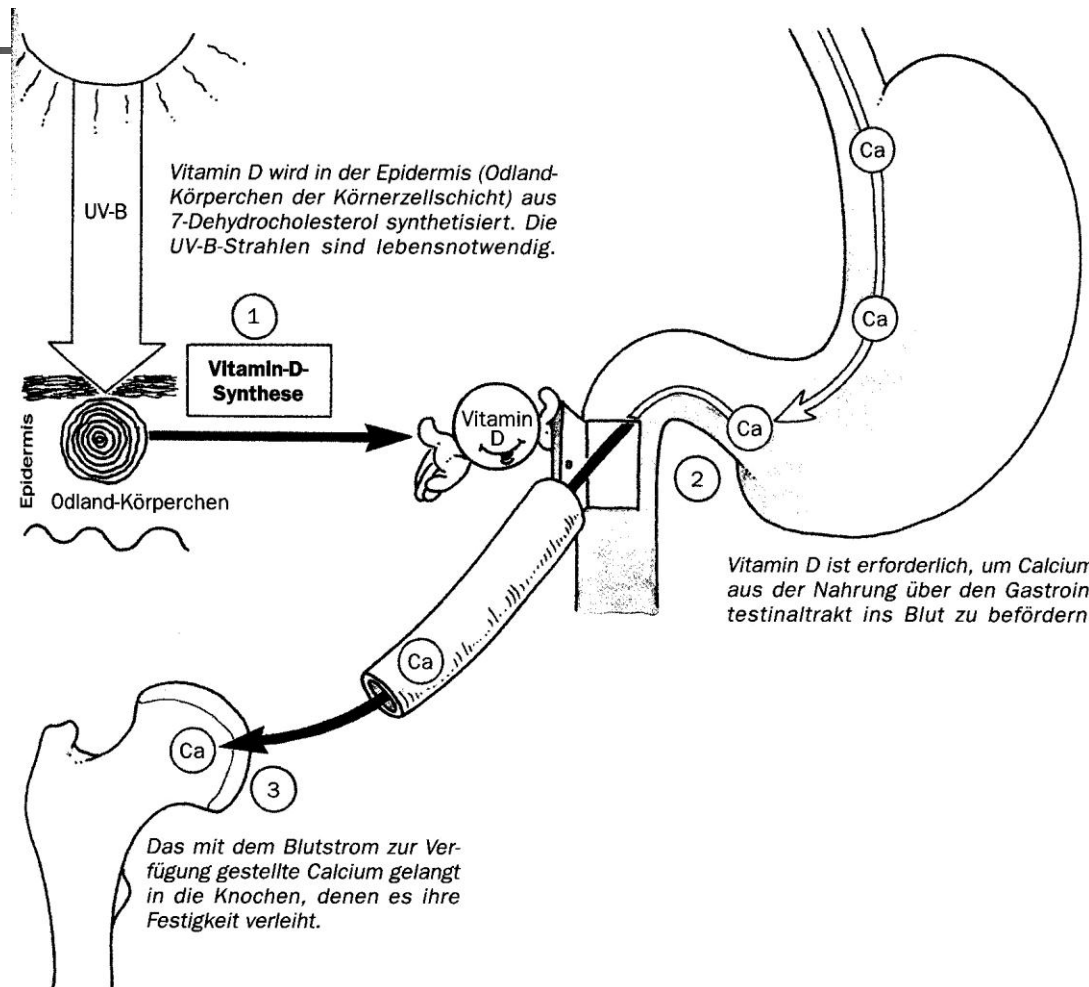
**Mikroorganismen**  
Kutaner Oberflächenfilm



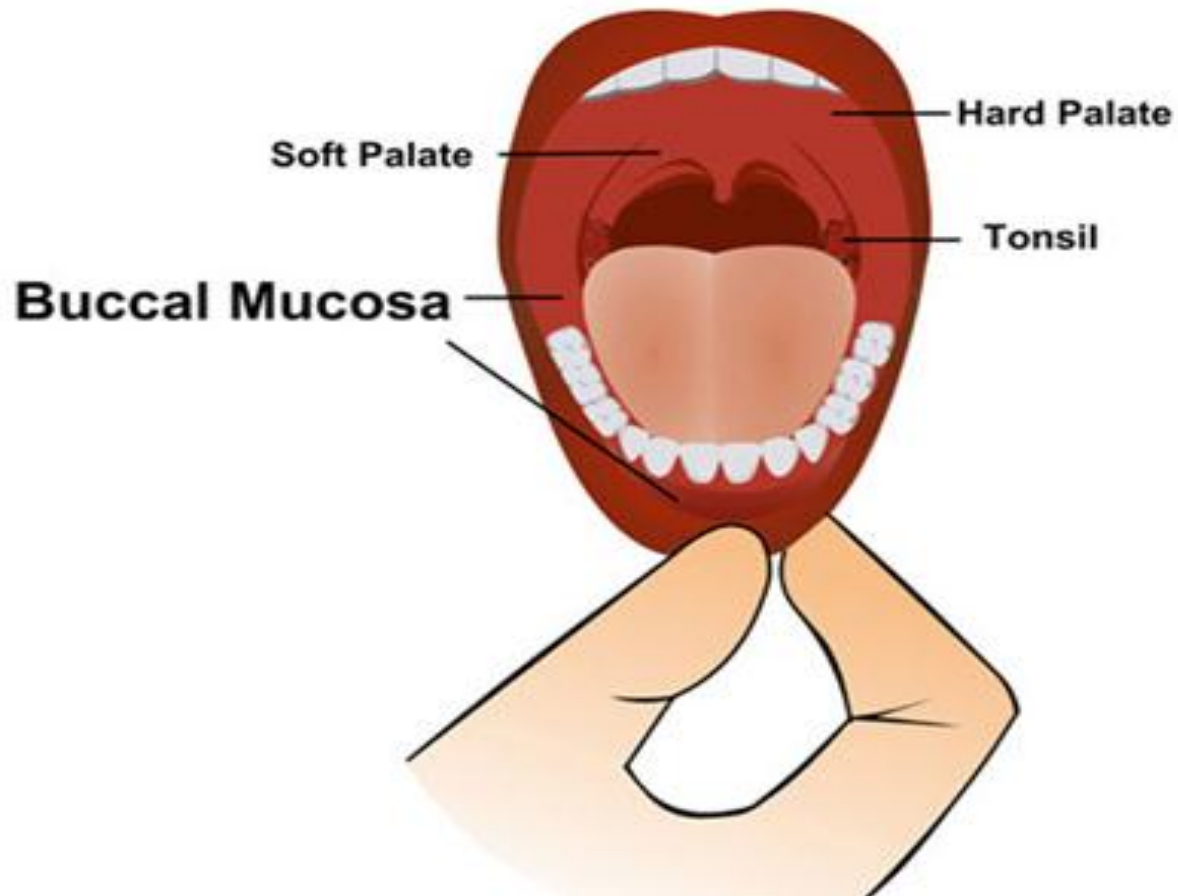
# Koža kot bariera med notranjostjo telesa in okolico



# Sonce, vitamin D in kalcij

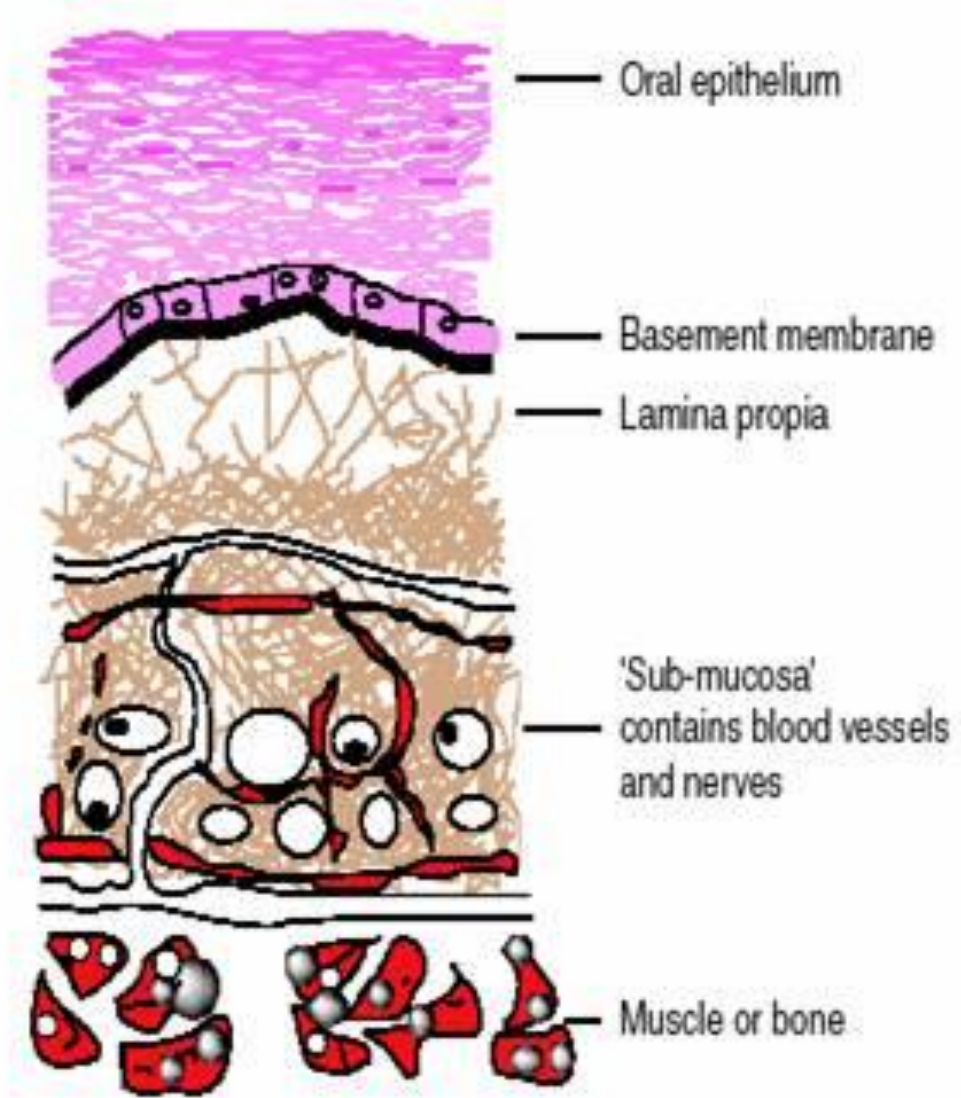


# USTNA SLUZNICA



US

STRA... ..

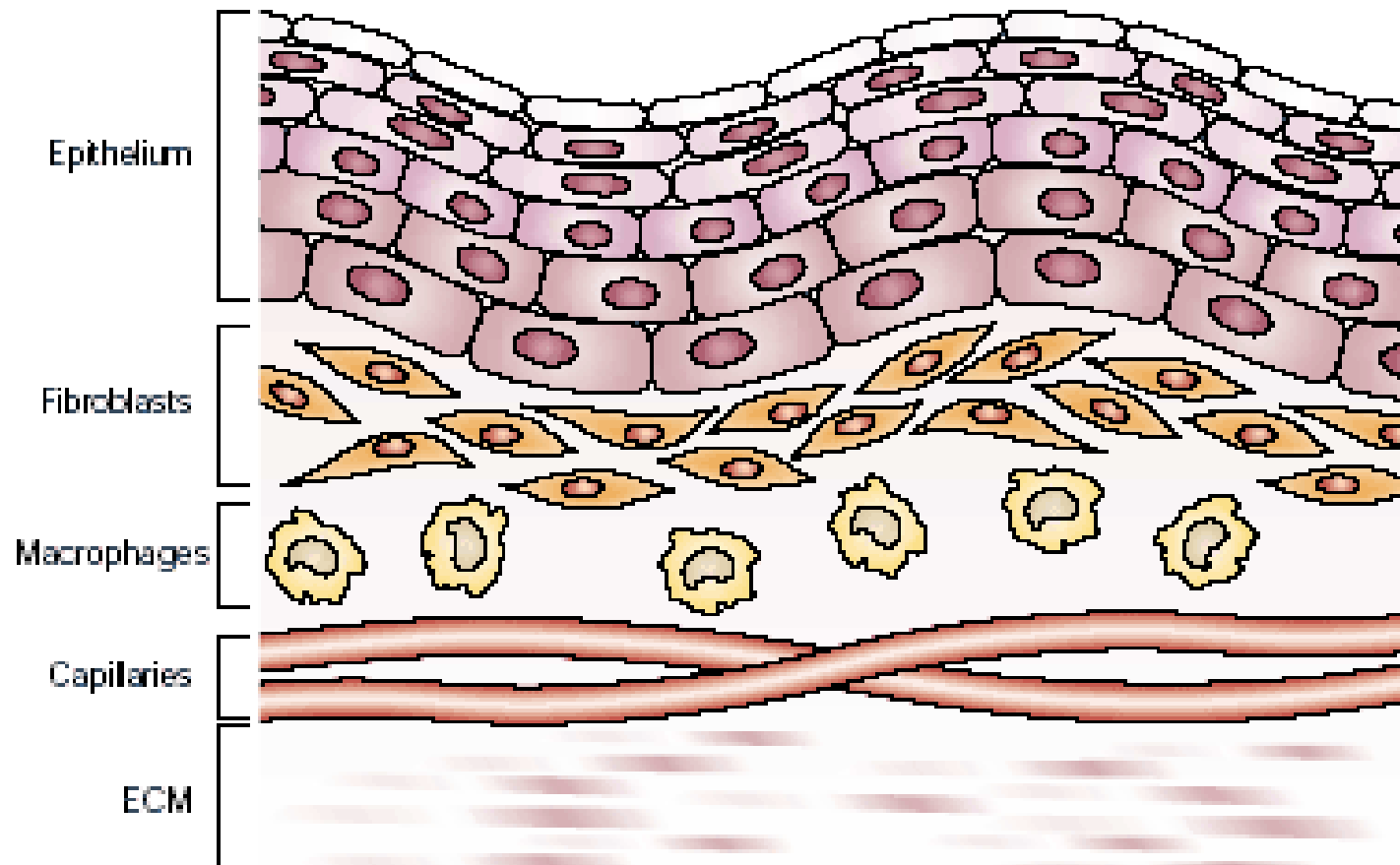




# Morfološka slika ustne sluznice

Medscape®

www.medscape.com



Oral mucosa is a specialized type of tissue which lines the mouth. This tissue is designed to provide protection for the body from infection and debris, and it is capable of producing secretions such as mucus in addition to absorbing materials introduced into the mouth. The trait of absorption is utilized to apply certain types of medications, such as oral vaccines, in which the medication is absorbed directly through the oral mucosa.

Three different types of oral mucosa can be found in the mouth. Around the tongue, cheeks, and hard palate, the tissue is keratinized so that it can withstand the abrasiveness of chewing. Other areas of the mouth have non-keratinized tissue, which is more fragile, and requires moist secretions to stay healthy. The taste buds are made from a third type of highly specialized oral mucosa. Similar types of mucus membranes can be found in other regions of the body, such as the eyes and genitals.

Slina

Suha usta

Prepustnost ustne sluznice

Razjede

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