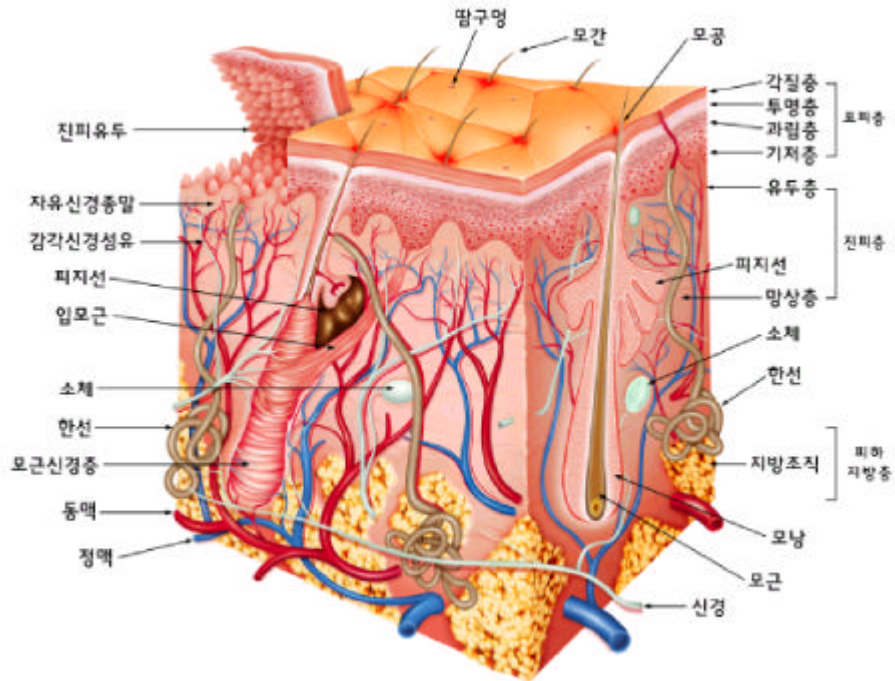


[R&D]

.....

1. 가 .
 , ,
 가
 .
 , D , ,
 . (epidermis), (dermis) .
 (subcutaneous fat) ,
 (sweat gland), (sebaceous gland), (hair) , (, nail) .
 1.6m², 16%
 가 , , 2.

가 , (epidermis) (dermis) (subcutaneous fat)
 , , , .
 ,



태평양

1

1) (stratified squamous cornifying epithelium) (keratinocyte) (melanocyte), (Langerhans' cell) (Merkel cell)가 가 (keratinocyte) (stratum basale) (Stratum spinosum) → (Stratum granulosum) → (Stratum lucidum) → (stratum corneum) (keratinocyte) (1)

(2) (4) (keratinization) 가 가 가 (melanocyte) 5%

가 가 , 가 (lamina densa)

(lamina lucida)

가 (anchoring dilament)

가 (anchoring fibril), (collagen fiber), (elastic fiber) (microfibril)가

3)

(Langerhans' cell) 가 90% 10 40

(ground substance) (collagen fiber), (elastic fiber)

(Merkel cell)

가

(papillary dermis)

2) - (reticular dermis)

(epidermal basement membrane) (fibroblast)가 (ectracellular matrix, ECM)

(macrophage), (mast cell)

가 (epidermal growth factor:EGF)가

가. (Elastic fiber)

13
I, III, IV, V, VI, VII 6
I 85%

가

(Ground substance)

90% (hyaluronic acid)
77%가 (Chondroitin sulfate)
(glycosaminoglycan)

가

(muco- polysaccharide)

I , 20% 가 III 0.1 0.2%
a 3 1000

3
hydroxylysine, hydroxyproline, glycine

X-Y-Gly 4)

가 glycine, lysine 가

prolyl hydroxylase lysyl hydroxylase

3

ascorbic acid, oxygen, ferrousion,
a-ketoglutarate가

glycosylation isomerase disulfide

S-S 3 가

amino, carboxy terminal ends가

tropocollagen lysyl oxidase 2.

molecular cross-linking 1)

(NMF;

Natural moisturizing factor)

1 ceramide, cholesterol
ceramide가 50% 2)
가 , cholesterol (melanocyte)
10% (hydroquinone)
(kojic acid)
가 , Imakawa
, cholesterol endothekin- 1(ET - 1)
, ceramide
DNA barrier cammomile
가 가 Eisinger and Marko 가 in
, vitro 20
가 가
가
NMF amino acid , Alpha-MSH POMC(proopiomelanocortin)
Keratohyalin()
Keratin SCF(stem cell factor) c-Kit
(fillaggrin) , . SCF가
, . Filaggrin 317 가
amino acid , filaggrin uint(34 . Mitf
kDa)가 7 amino acid linker peptide가 (microphthalmia-associated transcription factor)
10
profilaggrin(400 kDa)
. Filaggrin ,
, amino peptidase, carboxypeptidase
amino acid . PAR-2 phagocytosis ,
, , PAR-2

protease
 native collagen, proteoglycans, fibronectin
 proteolytic
 가
 growth factor cytokine receptor
 MAP kinase AP-1
 AP-1 MMPs
 가
 3) MMPs 가 가
 type I collagen
 specific MMP (Tissue inhibitor of MMP, TIMP)
 "Solar elastosis"
 elastin elastic
 fiber , solar elastotic materials elastin
 fibrillin, microfibrillar protein
 가 proteoglycan
 versican, versican hyaluronic
 acid, elastic fiber MMP retinoid MMP
 elastic fiber inhibitor ,
 solar elastotic material 가
 elastin basement membrane 가 , type IV,
 VII collagen 20
 elastin free radicals . Basement membrane
 MMP
 가
 Basement membrane laminin5
 ECM matrix 가
 metalloproteinases(MMPs)
 MMPs 14 가

