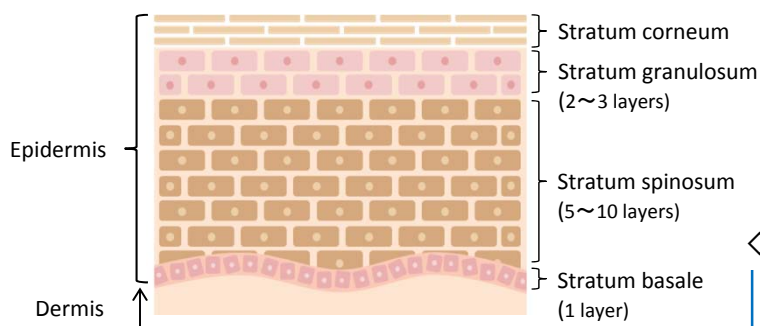


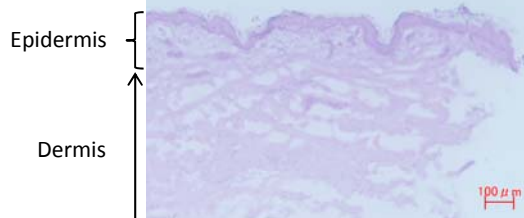
# Imaging of cross section of the skin using NanoSIMS

NanoSIMS 50L possesses the highest lateral resolution among SIMS, as well as high mass resolution at the same time. Here, we introduce examples of measuring cross section of the skin.

## Structure of cross section of the skin



## Hematoxylin and eosin (HE) stain

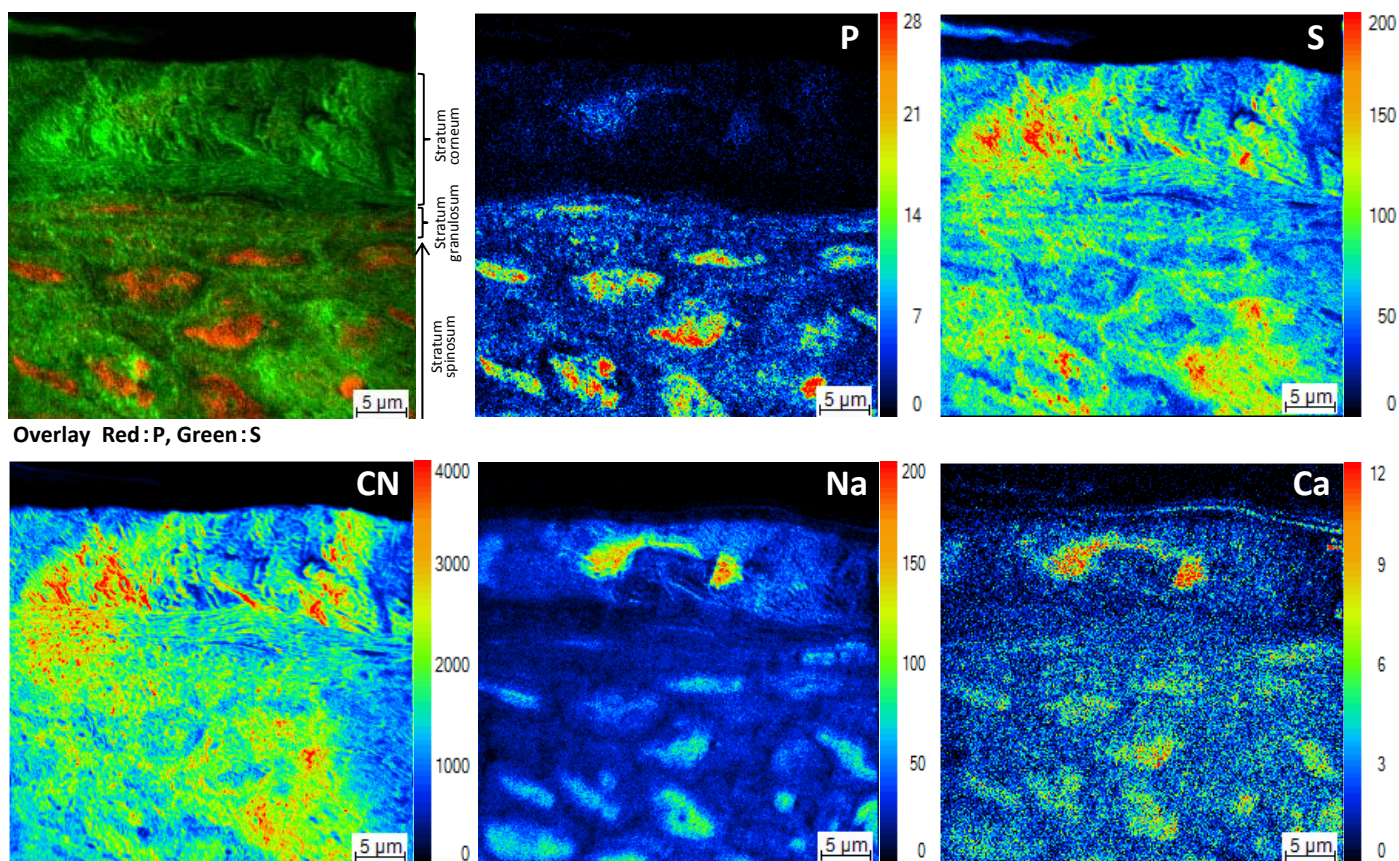


## ◇ Pretreatment

Slice the skin in a freezing state → Formalin fixation  
→ Metal coating → Vacuum drying → NanoSIMS measurement

## Imaging of cross section of the skin

※The following ion images are the different section from the above HE image.



Overlay Red:P, Green:S

- We measured the epidermis area of cross section of the skin.  
→ Characteristic distribution was observed at a cell level.
- We infer that P shows cell nuclei, and S shows keratin fibers.

We provide penetration evaluation of the compound with specific element or the compound which labelled a stable isotope (ex.  $^2\text{H}$ ,  $^{13}\text{C}$ ,  $^{15}\text{N}$ , ...).