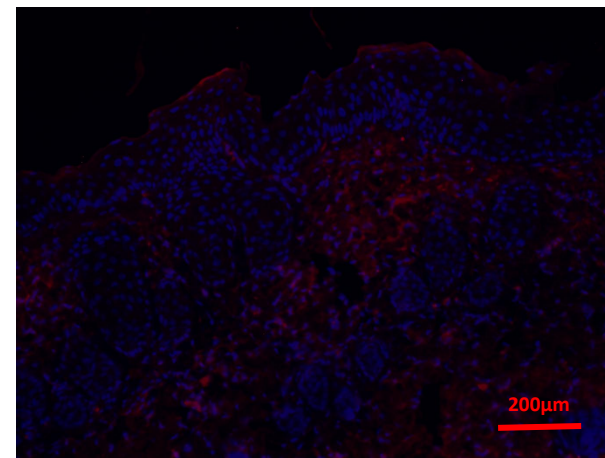
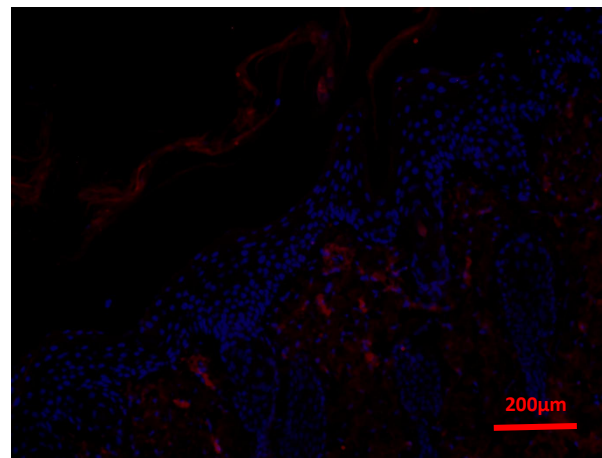
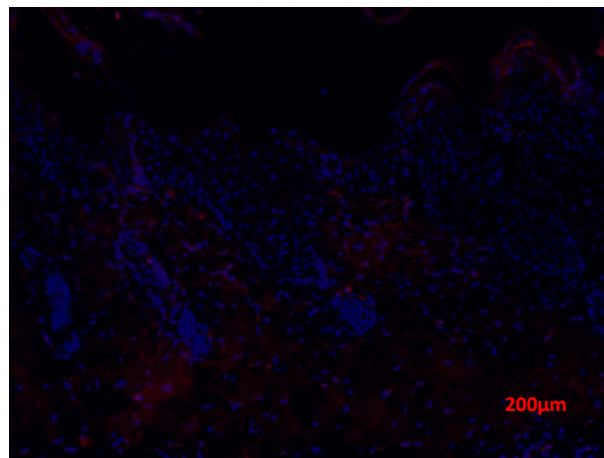
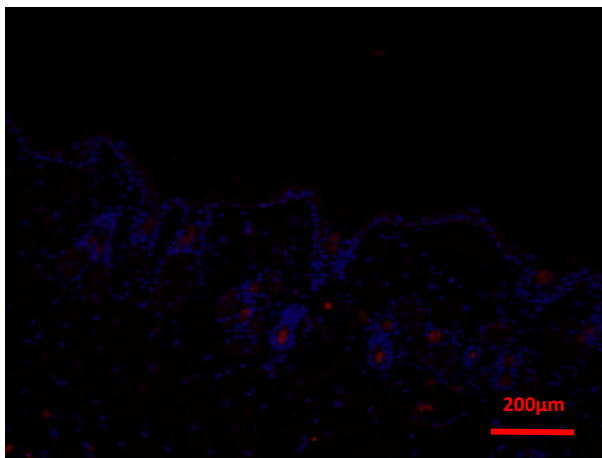
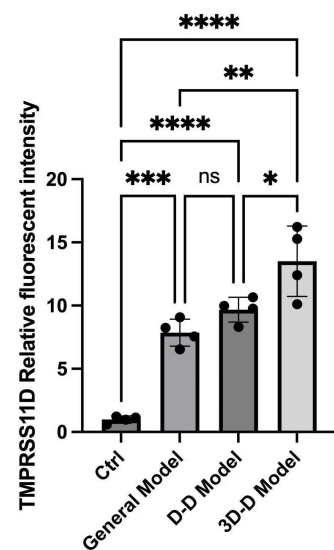


a**Ctrl****General Model****D-D Model****3D-D Model**

DAPI TMPRSS11D

b

Supplementary Figure S1. Immunofluorescence validation of TMPRSS11D expression in the skin tissues. (a) Representative immunofluorescence images showing the expression of TMPRSS11D (red) and DAPI (blue, nuclei) in the epidermis of the Ctrl, General Model, D-D Model, and 3D-D Model groups. Scale bar = 200 μ m. (b) Quantitative analysis of the relative fluorescent intensity of TMPRSS11D across the different experimental groups. Data are presented as mean \pm SD (n = 4 per group). *p < 0.05, **p < 0.01, ***p < 0.001, ****p < 0.0001; ns, not significant.