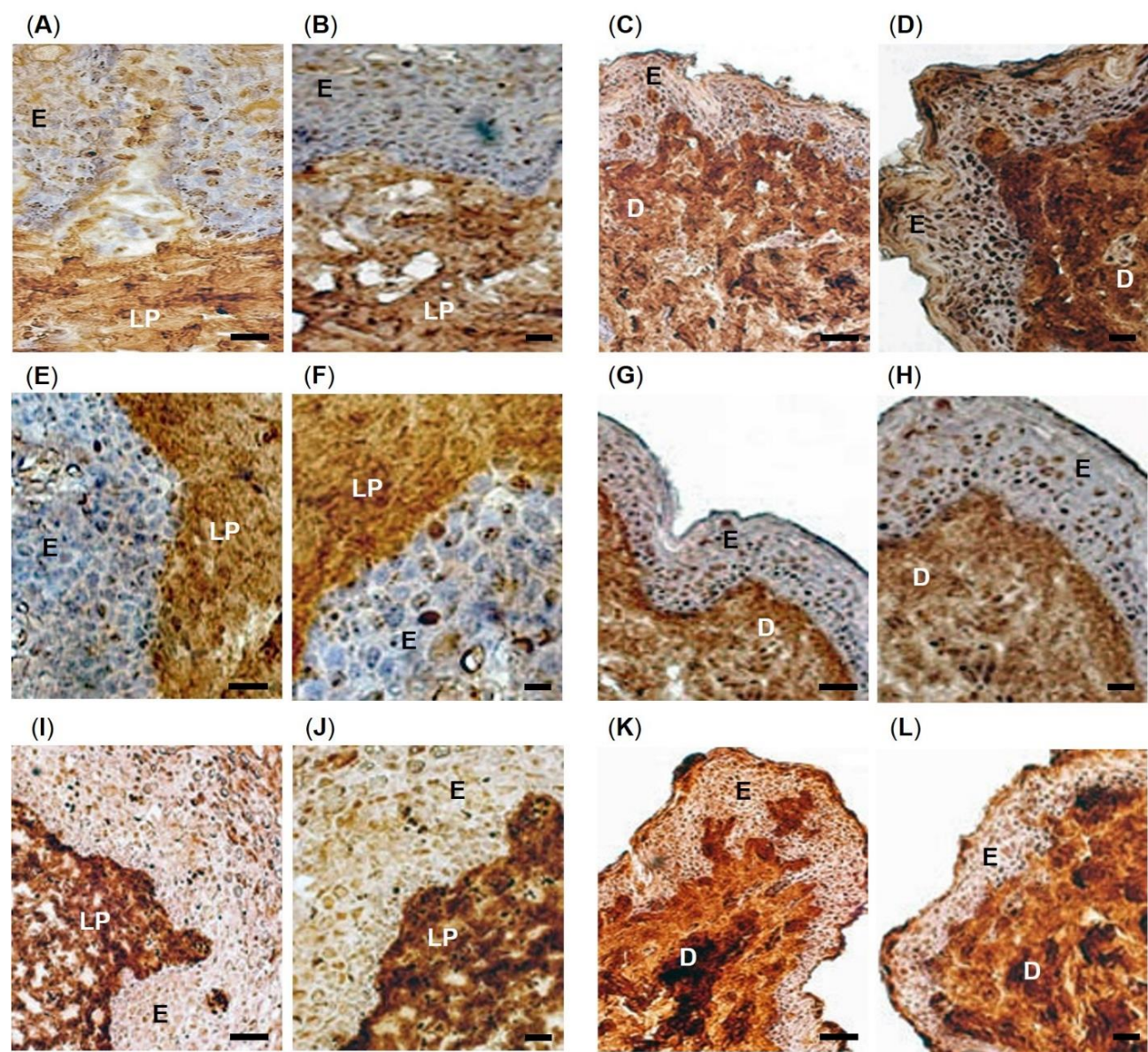
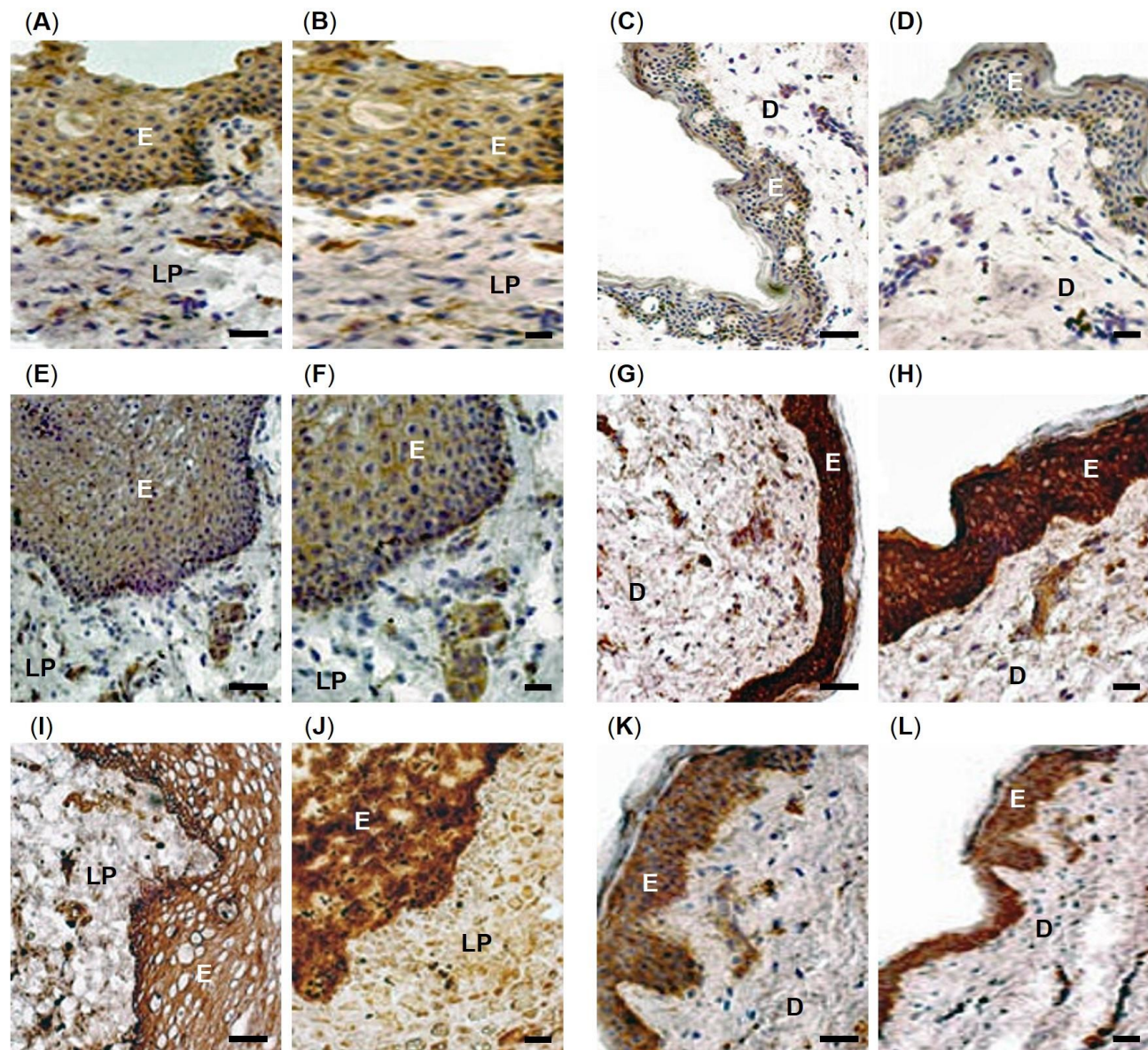


Supplementary Figure S1



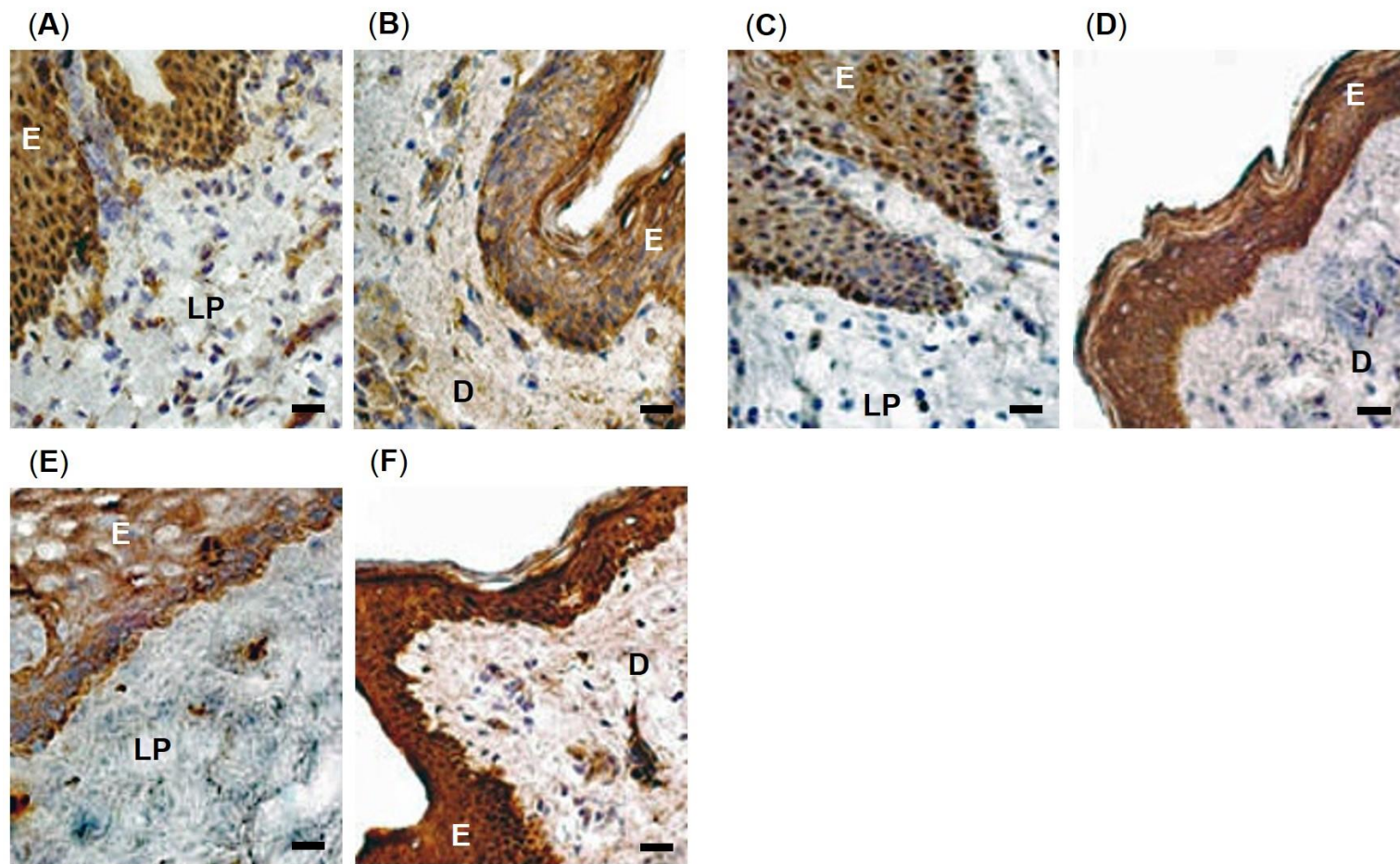
Immunohistochemical localization of protein carbonyl content in patient-matched oral mucosal and skin tissues. Low and high magnification images of (A-B) oral mucosal and (C-D) skin tissues from patient 2. Low and high magnification images of (E-F) oral mucosal and (G-H) skin tissues from patient 3. Low and high magnification images of (I-J) oral mucosal and (K-L) skin tissues from patient 4. E= Oral mucosal epithelium or skin epidermis; LP = oral mucosal lamina propria; D = skin dermis. Scale bars = 200 μ m and 25 μ m, respectively.

Supplementary Figure S2



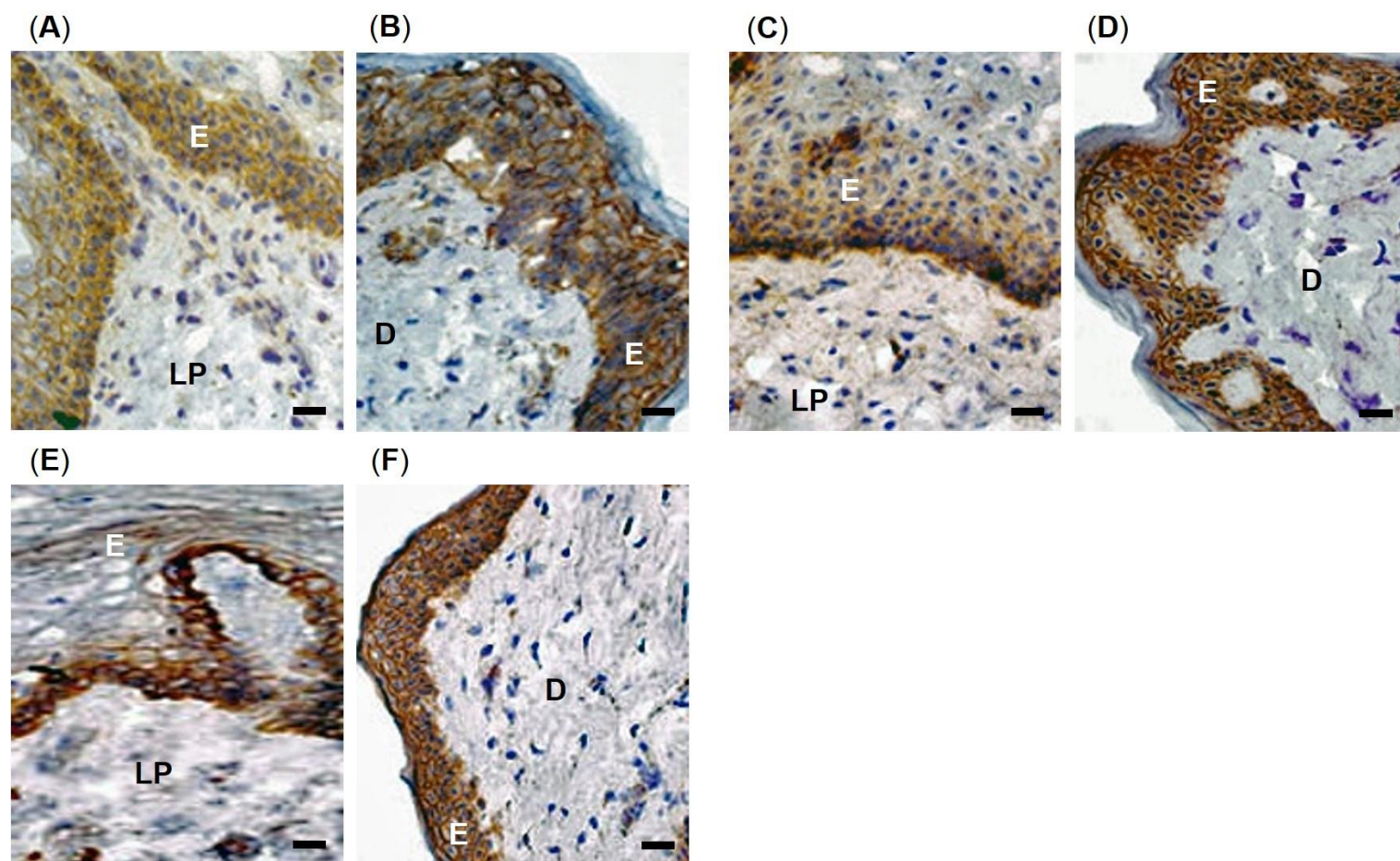
Immunohistochemical localization of malondialdehyde content in patient-matched oral mucosal and skin tissues. Low and high magnification images of (A-B) oral mucosal and (C-D) skin tissues from patient 2. Low and high magnification images of (E-F) oral mucosal and (G-H) skin tissues from patient 3. Low and high magnification images of (I-J) oral mucosal and (K-L) skin tissues from patient 4. E= Oral mucosal epithelium or skin epidermis; LP = oral mucosal lamina propria; D = skin dermis. Scale bars = 200 μ m and 25 μ m, respectively.

**Supplementary
Figure S3**



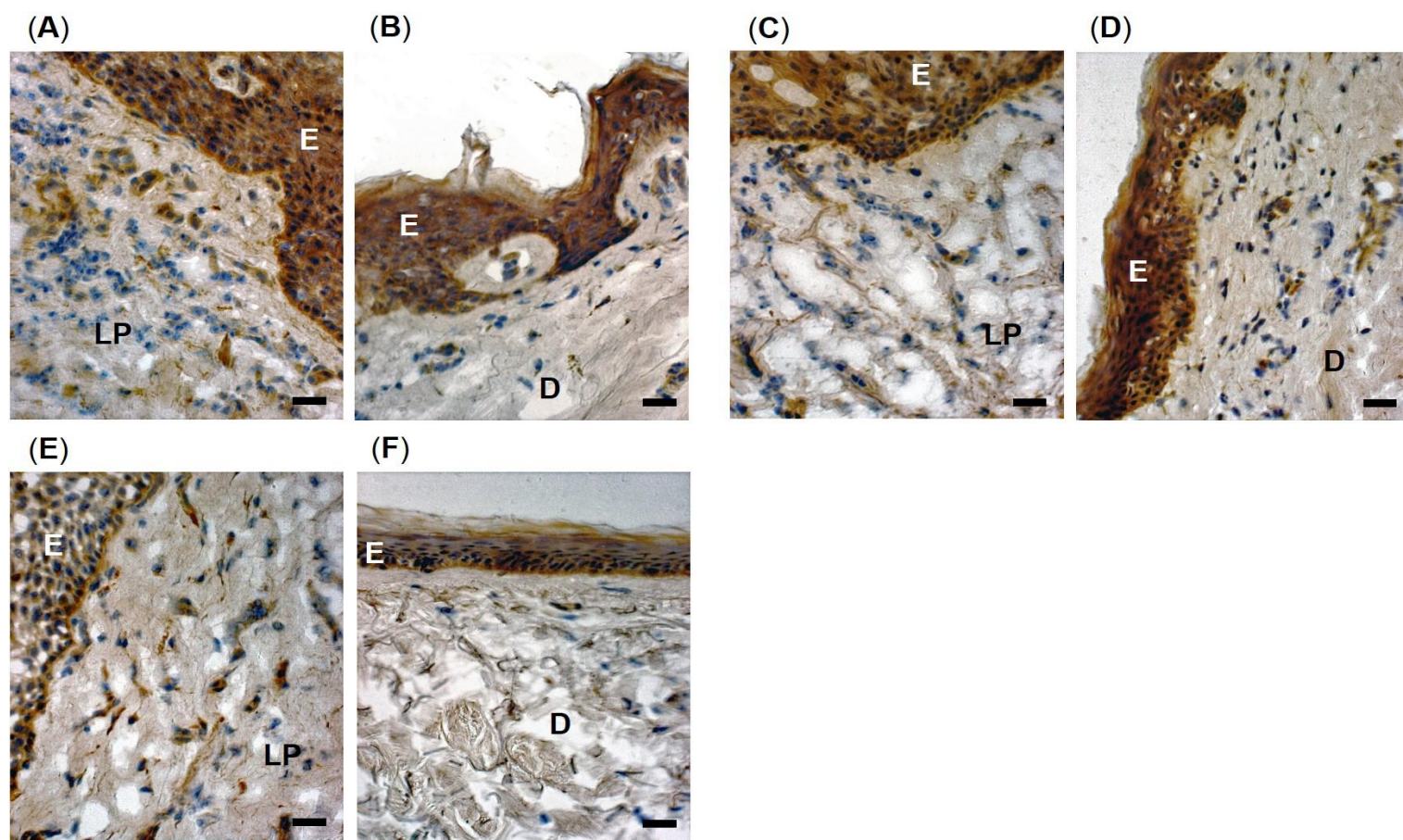
Immunohistochemical localization of SOD1 content in patient-matched oral mucosal and skin tissues. High magnification images of (A) oral mucosal and (B) skin tissues from patient 1. High magnification images of (C) oral mucosal and (D) skin tissues from patient 3. High magnification images of (E) oral mucosal and (F) skin tissues from patient 4. E= Oral mucosal epithelium or skin epidermis; LP = oral mucosal lamina propria; D = skin dermis. Scale bar = 25 μ m.

**Supplementary
Figure S4**



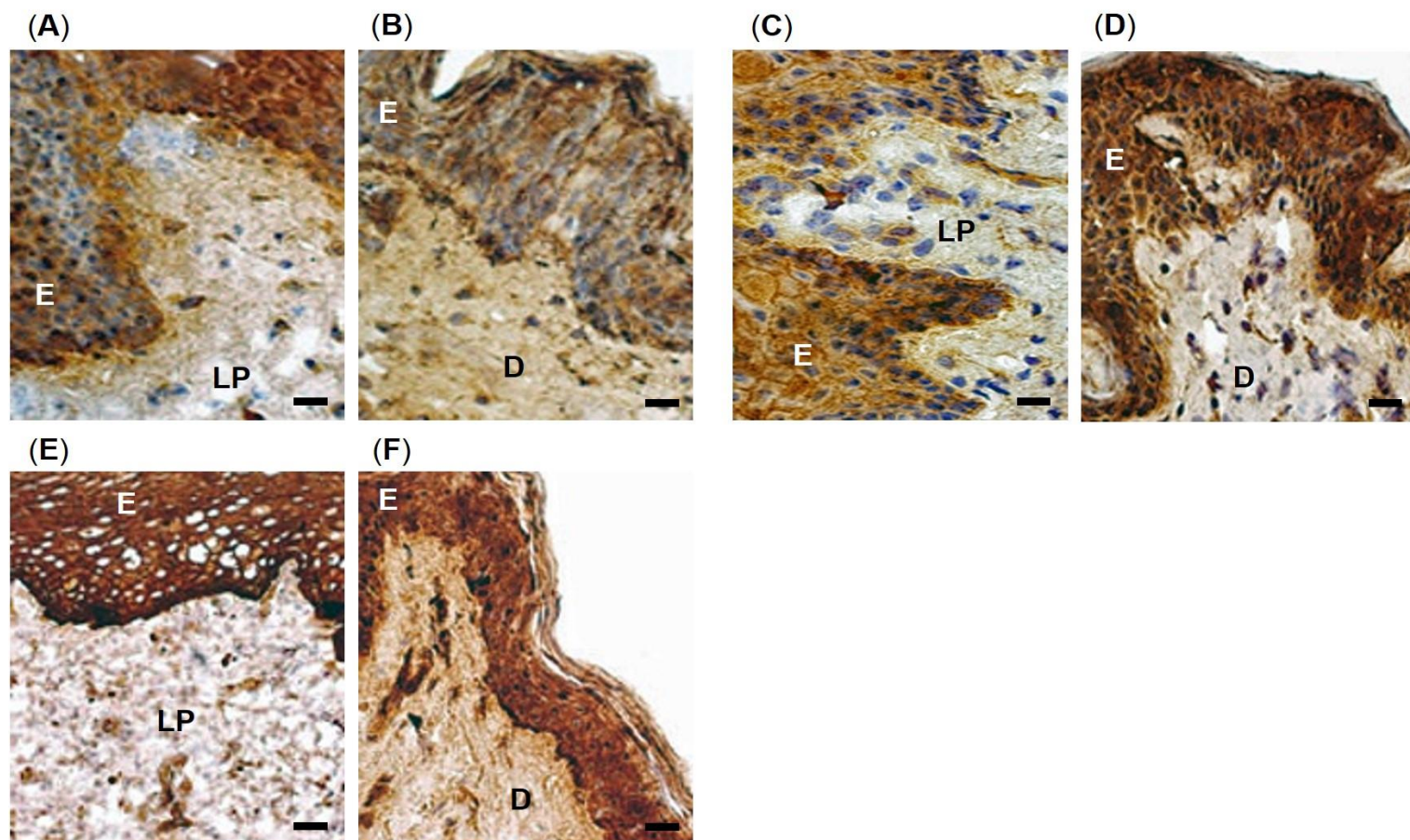
Immunohistochemical localization of SOD2 content in patient-matched oral mucosal and skin tissues. High magnification images of (A) oral mucosal and (B) skin tissues from patient 1. High magnification images of (C) oral mucosal and (D) skin tissues from patient 2. High magnification images of (E) oral mucosal and (F) skin tissues from patient 4. E= Oral mucosal epithelium or skin epidermis; LP = oral mucosal lamina propria; D = skin dermis. Scale bar = 25 μ m.

**Supplementary
Figure S5**



Immunohistochemical localization of SOD3 content in patient-matched oral mucosal and skin tissues. High magnification images of (A) oral mucosal and (B) skin tissues from patient 1. High magnification images of (C) oral mucosal and (D) skin tissues from patient 2. High magnification images of (E) oral mucosal and (F) skin tissues from patient 3. E= Oral mucosal epithelium or skin epidermis; LP = oral mucosal lamina propria; D = skin dermis. Scale bar = 25 μ m.

**Supplementary
Figure S6**



Immunohistochemical localization of catalase content in patient-matched oral mucosal and skin tissues. High magnification images of (A) oral mucosal and (B) skin tissues from patient 1. High magnification images of (C) oral mucosal and (D) skin tissues from patient 2. High magnification images of (E) oral mucosal and (F) skin tissues from patient 4. E= Oral mucosal epithelium or skin epidermis; LP = oral mucosal lamina propria; D = skin dermis. Scale bar = 25 μ m.

**Supplementary
Figure S7**

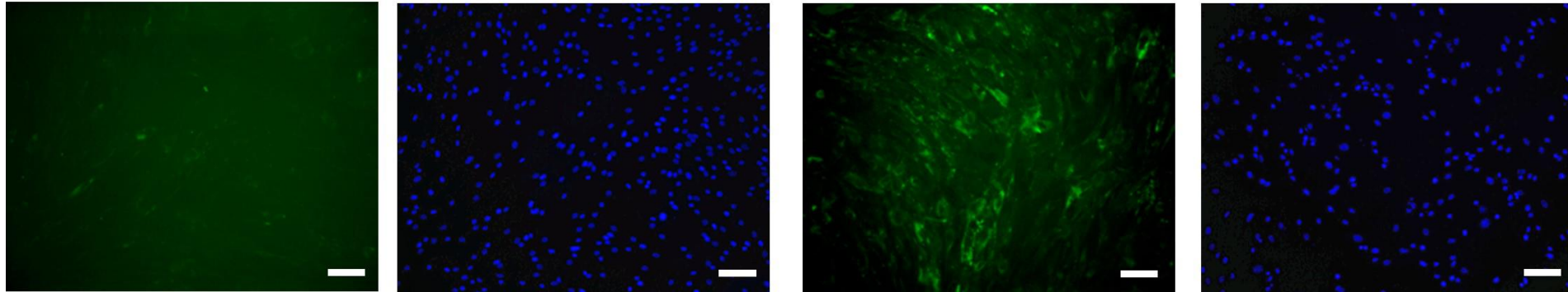
(A)

OMF (FITC)

OMF (Hoechst)

SF (FITC)

SF (Hoechst)



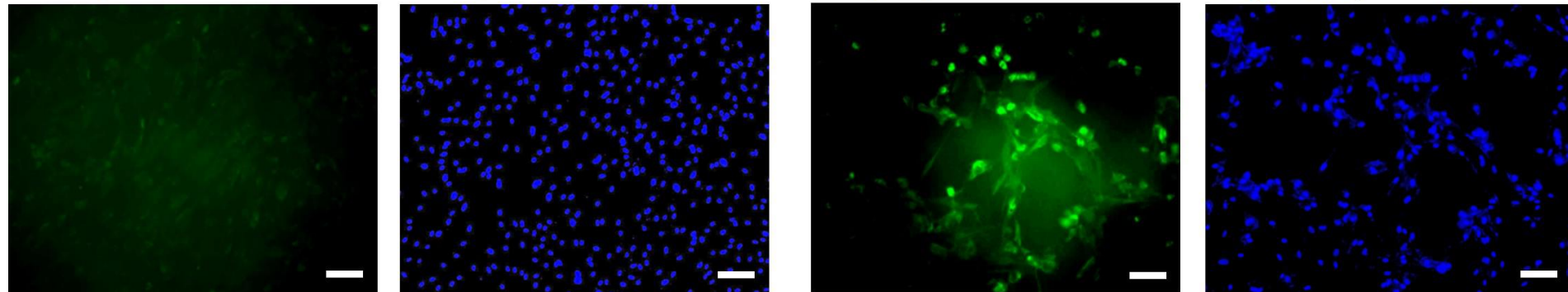
(B)

OMF (FITC)

OMF (Hoechst)

SF (FITC)

SF (Hoechst)



FITC (*green*) and Hoechst nuclear stain (*blue*) fluorescence microscopy images of DCF detection and ROS generation by patient- and passage-matched OMFs and SFs from **(A)** patient 6 and **(B)** patient 7. Scale bar = 200 μm .

**Supplementary
Figure S8**

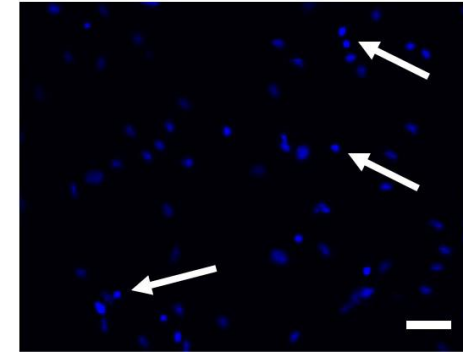
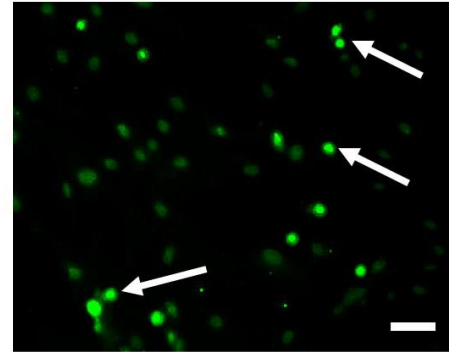
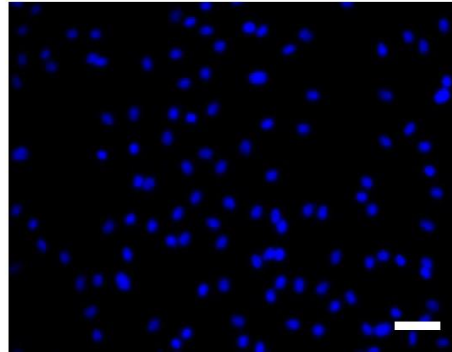
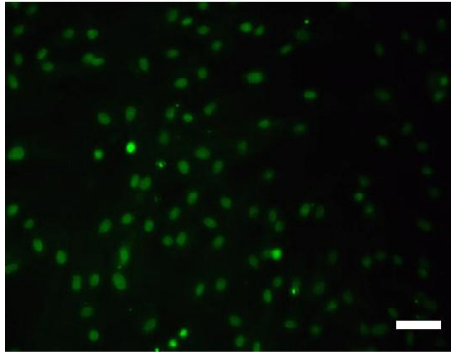
(A)

OMF (FITC)

OMF (Hoechst)

SF (FITC)

SF (Hoechst)



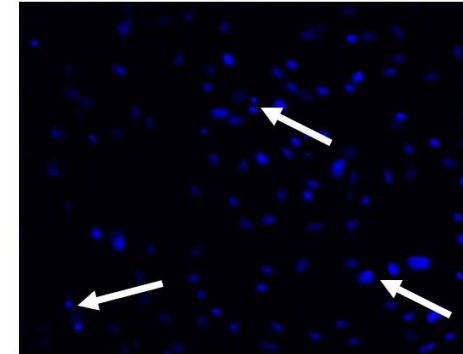
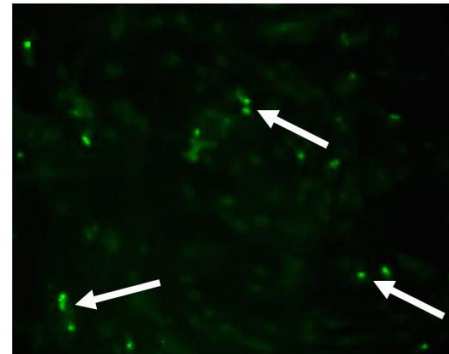
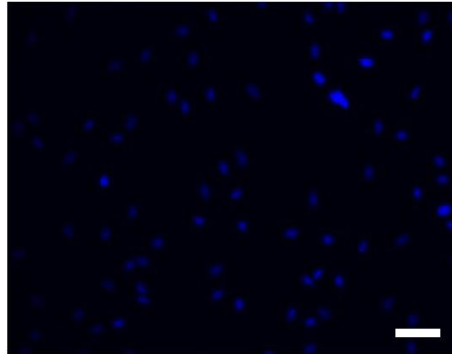
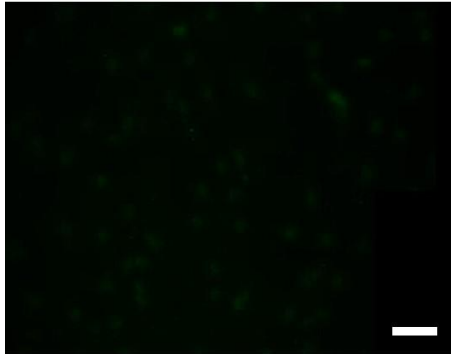
(B)

OMF (FITC)

OMF (Hoechst)

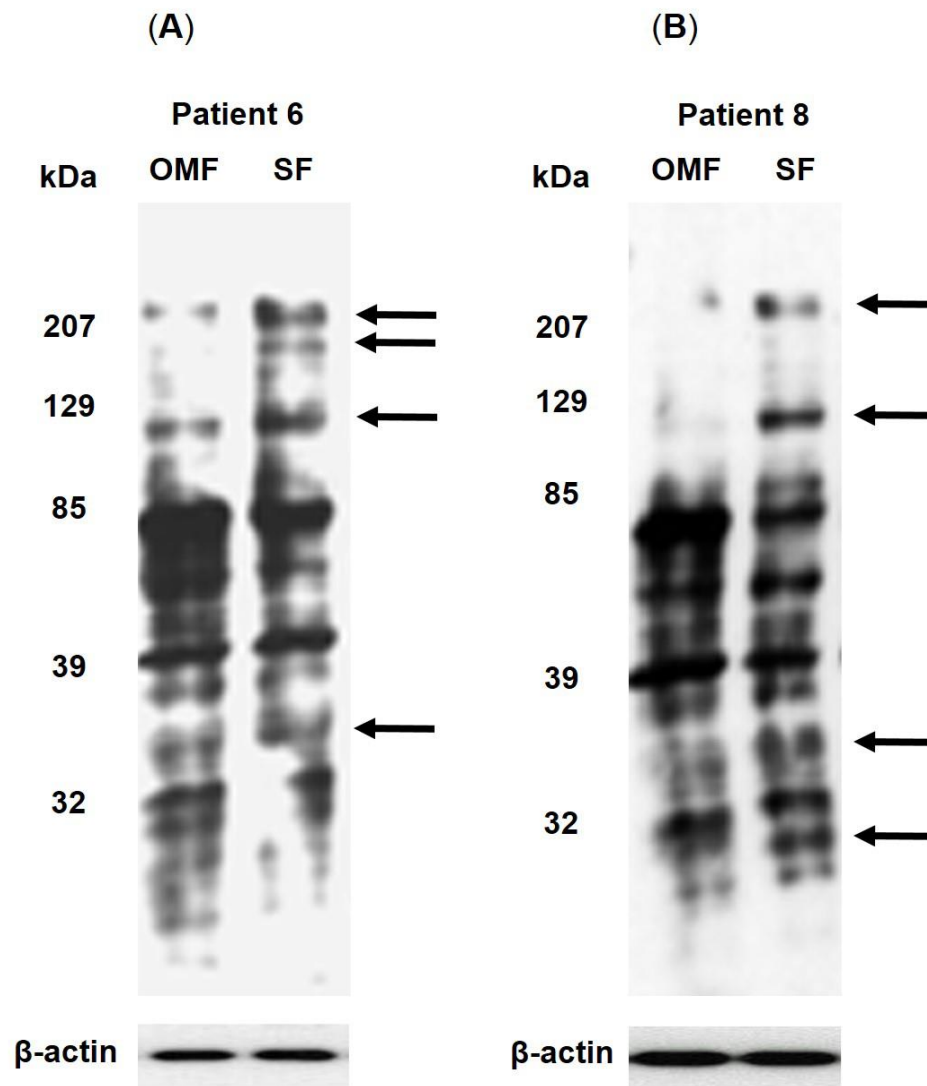
SF (FITC)

SF (Hoechst)



FITC (*green*) and Hoechst nuclear stain (*blue*) fluorescence microscopy images of 8-OHdG detection and oxidative DNA damage (*arrowed*) in patient- and passage-matched OMFs and SFs from (A) patient 6 and (B) patient 7. Scale bar = 100 μ m.

**Supplementary
Figure S9**



Western blot profiles of protein carbonyl content and oxidative protein damage in patient- and passage-matched OMFs and SFs from patients 6 and 8. Prominent protein carbonyl bands (*arrowed*) consistently detectable at elevated levels in SF blots are shown. For patients 6, prominent bands were detectable in SF blots at molecular weights of approximately >200 kDa, 190 kDa, 129 kDa, and 30-37 kDa (*arrowed*). For patient 8, prominent bands were detectable in SF blots at molecular weights of approximately >200 kDa, 129 kDa, and 30-37 kDa (*arrowed*).