

## Supplementary Information

### **Preservation of epithelial progenitor cells from collagenase-digested oral mucosa during ex vivo cultivation**

Yi-Jen Hsueh<sup>1,2</sup>, Shiang-Fu Huang<sup>3,4</sup>, Jui-Yang Lai<sup>1,2,5,6</sup>, Shih-Chieh Ma<sup>1,2</sup>, Hung-Chi Chen\*<sup>1,2,4</sup>, Sung-En Wu<sup>1,2</sup>, Tze-Kai Wang<sup>1,2</sup>, Chi-Chin Sun<sup>7,8</sup>, Kevin Sheng-Kai Ma<sup>9</sup>, Jan-Kan Chen<sup>2,10</sup>, Chyong-Huey Lai<sup>11</sup>, David Hui-Kang Ma\*<sup>1,2,8</sup>

<sup>1</sup> Limbal Stem Cell Laboratory, Department of Ophthalmology, Chang Gung Memorial Hospital, Linkou, Taiwan.

<sup>2</sup> Center for Tissue Engineering, Chang Gung Memorial Hospital, Linkou, Taiwan.

<sup>3</sup> Department of Otolaryngology, Chang Gung Memorial Hospital, Linkou, Taiwan.

<sup>4</sup> Department of Medicine, College of Medicine, Chang Gung University, Taoyuan, Taiwan.

<sup>5</sup> Institute of Biochemical and Biomedical Engineering, Chang Gung University, Taoyuan, Taiwan.

<sup>6</sup> Biomedical Engineering Research Center, Chang Gung University, Taoyuan, Taiwan.

<sup>7</sup> Department of Ophthalmology, Chang Gung Memorial Hospital, Keelung, Taiwan.

<sup>8</sup> Department of Chinese Medicine, College of Medicine, Chang Gung University, Taoyuan, Taiwan.

<sup>9</sup> Department of Dentistry, College of Oral Medicine, Chung Shan Medical University, Taichung, Taiwan.

<sup>10</sup> Department of Physiology, College of Medicine, Chang Gung University, Taoyuan, Taiwan.

<sup>11</sup> Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, Linkou, Taiwan.

#### **\*Corresponding Authors:**

David Hui-Kang Ma, MD, PhD

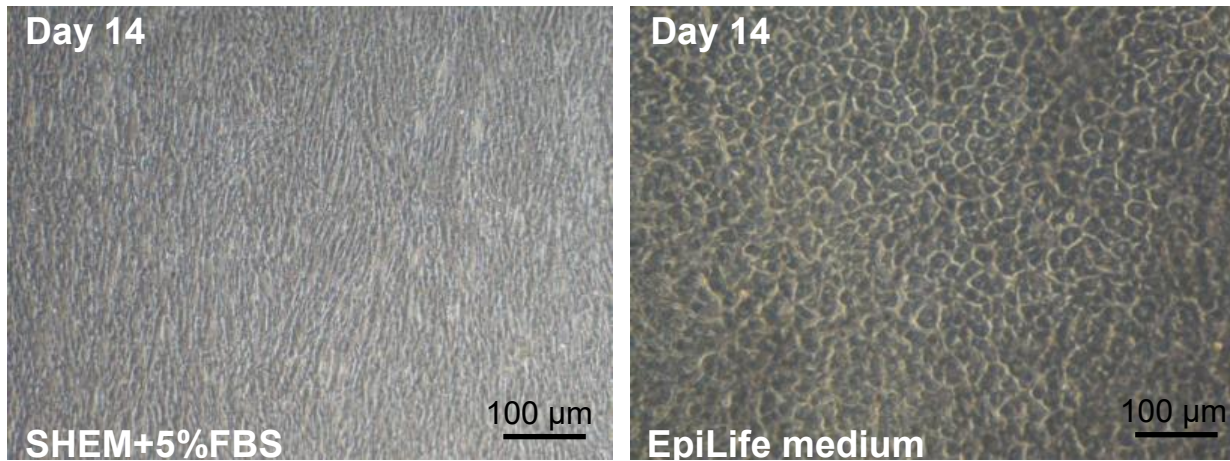
E-mail: [davidhkma@yahoo.com](mailto:davidhkma@yahoo.com)

Hung-Chi Chen, MD, PhD

E-mail: [mr3756@cgmh.org.tw](mailto:mr3756@cgmh.org.tw)

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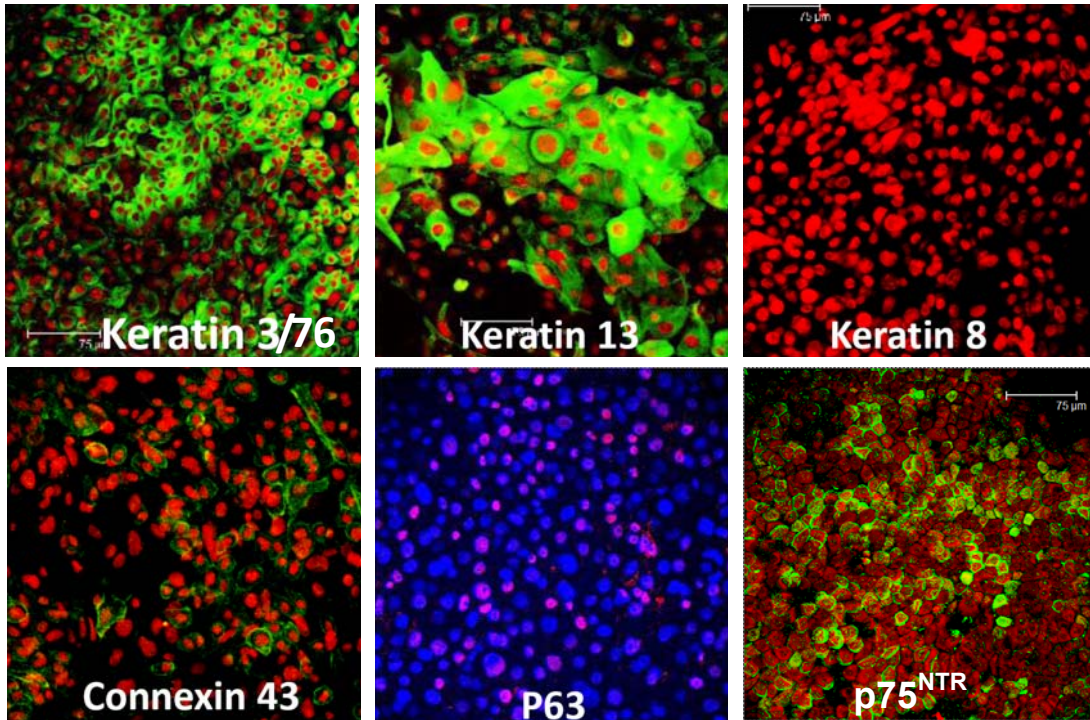
Figure S1, Figure S2 and Table S1



### Supplementary Figure S1

#### Submucosal mesenchymal cells contamination in collagenase-isolated oral mucosal epithelial cells (OMECS)

Left: Culture with SHEM medium containing 5% FBS, submucosal mesenchymal cells overgrowth is often encountered in OMECS isolated by collagenase. Right: In contrast, submucosal mesenchymal cells overgrowth is suppressed when the medium is changed to serum free EpiLife medium.



### Supplementary Figure S2

#### Characterization of human oral mucosal epithelial cells (OMECS) isolated by collagenase

Immunoconfocal microscopy showed that, similar to normal oral mucosal epithelium, OMECS isolated by collagenase and grown on de-epithelialized AM were positive for cytokeratin 3/76, 13, and connexin 43 (green), but negative for cytokeratin 8. Prominent staining for stem cell markers p63 (red) and p75<sup>NTR</sup> (green) was also evident. Cell nuclei counter-stained by PI (red) or Hoechst 33342 (blue). The bars represent 75 μm.

No.	Age	Sex	Primary disease	Excision site	Microscopic finding
<b>IRB no: 101-0108B</b>					
1	63	M	Left recurrent buccal cancer, cT2N0M0	Left buccal	Sections show no tumor
2	57	M	Left buccal cancer, cT2N0M0	Left post. buccal	Sections show no tumor
3	53	M	Left buccal SCC, pT4aN2bM0	Left buccal	Sections show no tumor
4	59	M	Recurrent lip cancer, pT2N2bM0	Upper lip	Sections show no tumor
5	47	M	Left buccal cancer recurrence	Left buccal	Sections show no tumor
6	73	F	Right buccal cancer, pT3N0	Right upper buccal	Sections show no tumor
7	58	M	Mouth floor cancer, cT1~2N0M0	Mouth floor	No definite malignancy
8	42	F	Left buccal cancer, pT3N0M0	Left upper buccal	Sections show no tumor
9	37	M	Right buccal cancer, pT2N2b	Right buccal	Sections show no tumor
10	50	M	Left buccal-mouth floor cancer, pT4aN1M0	Left buccal	Sections show no tumor
11	45	M	Left buccal cancer, cT4aN2bM0	Left mouth floor	All margins are negative for malignancy
12	53	M	Left retromolar squamous cell carcinoma, cT2N0M0	Left retromolar	All margins are negative for malignancy
13	56	M	Left lower lip cancer, cT2N0M0	Left lower lip	Sections show no tumor.
<b>IRB no: 102-5895B</b>					
14	85	M	Left buccal cancer, SCC cT1N0M0 pT2N0M0	Left buccal	All margins are negative for malignancy
15	37	M	Right lower gum cancer, pT4aN2b	Right buccal	All margins are negative for malignancy
16	59	M	Right buccal squamous cell carcinoma, cT4N0M0	Right buccal	No definite malignancy is seen.
17	44	M	Right retromolar trigone MDSqCC, rpT2	Right retromolar trigone	Sections show no tumor
18	61	M	Right gum cancer, pT4aN0	Right palate	Sections show no tumor
19	35	M	Right maxillary sinus cancer, cT4aN2bM0	Right maxillary sinus	Sections show no tumor
20	54	M	Lower lip cancer	Lower lip	Sections show no tumor
21	66	F	Left buccal cancer, cT4bN1M0	Left buccal mucosa	Sections show no tumor
22	58	M	Right buccal cancer recurrence, rcT2N1M0	Right buccal	Sections show no tumor
23	74	M	Right buccal cancer, cT2N0M0	Buccal mucosa	Sections show no tumor
24	21	F	Chondroblastic osteosarcoma of Right mandible, cT2N0M0	Right mandible	Sections show no tumor
25	69	M	Lower lip cancer, cT2N0M	Lower lip cancer	Sections show no tumor
26	43	M	Right buccal cancer T1N2bM0	Right buccal	Sections show no tumor
27	51	M	Right buccal cancer T1N0M0	Right buccal	Sections show no tumor
28	37	M	Left buccal cancer, cT4aN2bM0,	Left buccal	No evidence of malignancy is seen.
29	51	M	Left buccal cancer, cT1N1M0, pT2N2b	Left buccal	Sections show no tumor
30	60	M	Right lower gum, rcT2N0, pT4aN0	Right lower gum	No evidence of malignancy is seen.

## Supplementary Table S1

Demographic information of oral mucosa donors: