Supplemental Document

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## Label-free intratissue activity imaging of alveolar organoids with dynamic optical coherence tomography: supplement

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## Label-free intratissue activity imaging of alveolar organoids with dynamic optical coherence tomography: supplemental document

In this supplementary material, we provide eleven figures, Figs. S1–S11. These figures show the LIV images of the alveolar organoids at several depth, and supplement Fig. 3 of the full-length manuscript. These samples are normal and bleomycin-model alveolar organoids at Days +3, +7, +10, +16, +17, and +18, while Fig. 3 of the full-length manuscript presents the normal organoid at Day +3. The field of view of the *en face* images (square panes) is 3 mm × 3 mm. The depth-independent distribution of the alveoli and fibroblasts were found in all samples.



**Fig. S1.** The LIV *en face* images of Day +3 bleomycin-model organoid at several depths (square panes, FOV is  $3 \text{ mm} \times 3 \text{ mm}$ ). The images were extracted at the depth of every 0.07 mm, and the depth positions are indicated in the cross-sectional LIV image at the center. The alveoli with high-LIV (green or green-red mixture) borders, which are possibly alveolar epithelium, and the fibroblasts are uniformly distributed in 3D.



**Fig. S2.** The case of Day +7 normal organoid. The appearances indicated by white arrows are auto-correlation artifacts. Here after, all figures are presented in the same manner with Fig. S1.



**Fig. S3.** The case of Day +7 bleomycin-model organoid.



**Fig. S4.** The case of Day +10 normal organoid.



**Fig. S5.** The case of Day +10 bleomycin-model organoid. The appearances indicated by white arrows are surface reflection of culture medium.



**Fig. S6.** The case of Day +16 normal organoid. The appearances indicated by white arrows are surface reflection of culture medium.



**Fig. S7.** The case of Day +16 bleomycin-model organoid.



**Fig. S8.** The case of Day +17 normal organoid. The appearances indicated by white arrows are surface reflection of culture medium.



**Fig. S9.** The case of Day +17 bleomycin-model organoid. The appearance indicated by a white arrow is an auto-correlation artifact.



**Fig. S10.** The case of Day +18 normal organoid.



**Fig. S11.** The case of Day +18 bleomycin-model organoid. The appearances indicated by white arrows are surface reflection of culture medium.