High-resolution label-free imaging of tissue morphology with confocal phase microscopy: supplement

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High-resolution label-free imaging of tissue morphology with confocal phase microscopy

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This document provides supplementary information to "High-resolution label-free imaging of tissue morphology with confocal phase microscopy.”

1. STOMACH AND CEREBRUM

While prostate and breast constitute the largest single cancers in men and women, we also evaluated phase contrast images for stomach and cerebrum. With adjacent normal stomach, the general organization of glands and cell polarization could be recognized (Fig. S1(a)). Adenocarcinoma lesions were revealed as large nests of tumor cells with enlarged nuclei and multiple prominent nucleoli (Fig. S1(c)). Lymphocyte infiltration in the stroma was observed. With cancer adjacent cerebrum, a sparse distribution of glial cells and individual pyramidal neurons was revealed (Fig. S1(e)). Glioblastoma lesions of cerebrum yielded a complex tissue architecture that was qualitatively correctly reproduced by phase imaging (Fig. S1(g)), as visual comparison with H&E demonstrates. These examples demonstrate the broad applicability of our method and utility for a variety of tissue morphologies.
Fig. S1. Confocal phase images and H&E image of adjacent normal stomach (a-b), adenocarcinoma of stomach (c-d), cancer adjacent cerebrum (e-f), glioblastoma (g-h).