**Additional file 1**



**Figure S1. X-ray dark-field imaging setup, contrast formation and grating parameters.** **(A)** Setup overview, distances approximately to scale. During acquisition, the arrangement consisting of the three gratings and collimators moves in a circular arc around the tube focal spot F, while a large number of frames is recorded. **(B)** Qualitative explanation of the origin of x-ray dark-field contrast. Grating periods and inter-grating distances are selected such that a high-frequency, periodic intensity pattern is generated in the plane of the analyser grating (G2). Small-angle scatter due to a sample (*e.g.* lung tissue) leads to a reduction in the relative amplitude (interferometric visibility) of this periodic pattern. The dark-field signal due to a sample is often defined as the factor by which it reduces interferometric visibility. The source grating (G0) is necessary to increase the source's transverse coherence length, and the analyser grating (G2) converts the high-frequency intensity modulations to lower frequencies detectable with conventional x-ray detectors. **(C)** Salient grating parameters and distances. Photograph of histologic slide: modified from Wikimedia Commons, User "Jpogi", https://commons.wikimedia.org/wiki/File:Alveolar\_sac.JPG. Published under CC BY-SA 4.0 (https://creativecommons.org/licenses/by-sa/4.0/).