SUPPLEMENTAL MATERIAL

Performance of a Multispectral Optoacoustic Tomography (MSOT) System equipped with 2D vs. 3D Handheld Probes for Potential Clinical Translation

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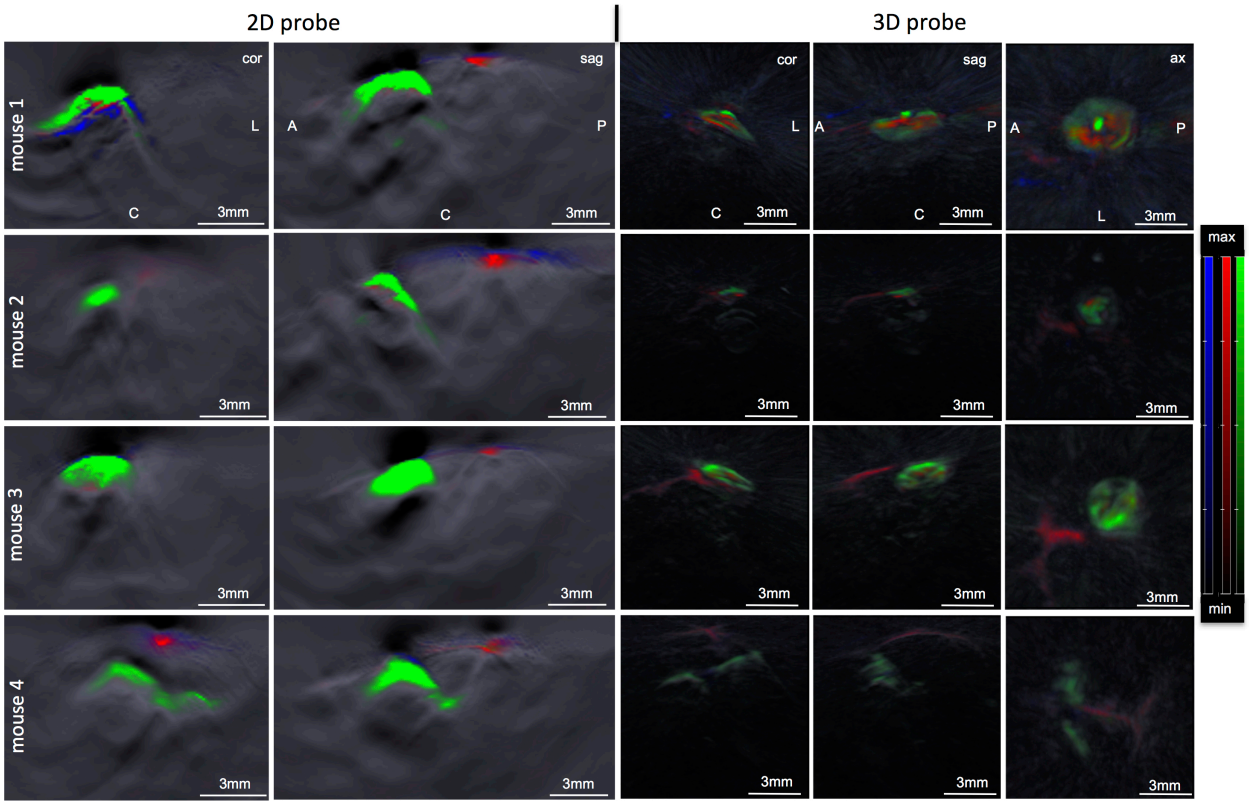

Figure S1. Comparison of the imaging data from all melanoma bearing mice on day 10 after tumor inoculation as the tumor growth pattern varied among the mice, i.e. "mouse 4" developed early signs of the melanoma metastasis breaking into the ventricular system compared to the others (melanin = green; oxygenated hemoglobin = red; deoxygenated hemoglobin = blue; A = anterior; P = posterior; C = caudal; L = left side; cor = coronal; sag = sagittal; ax = axial).

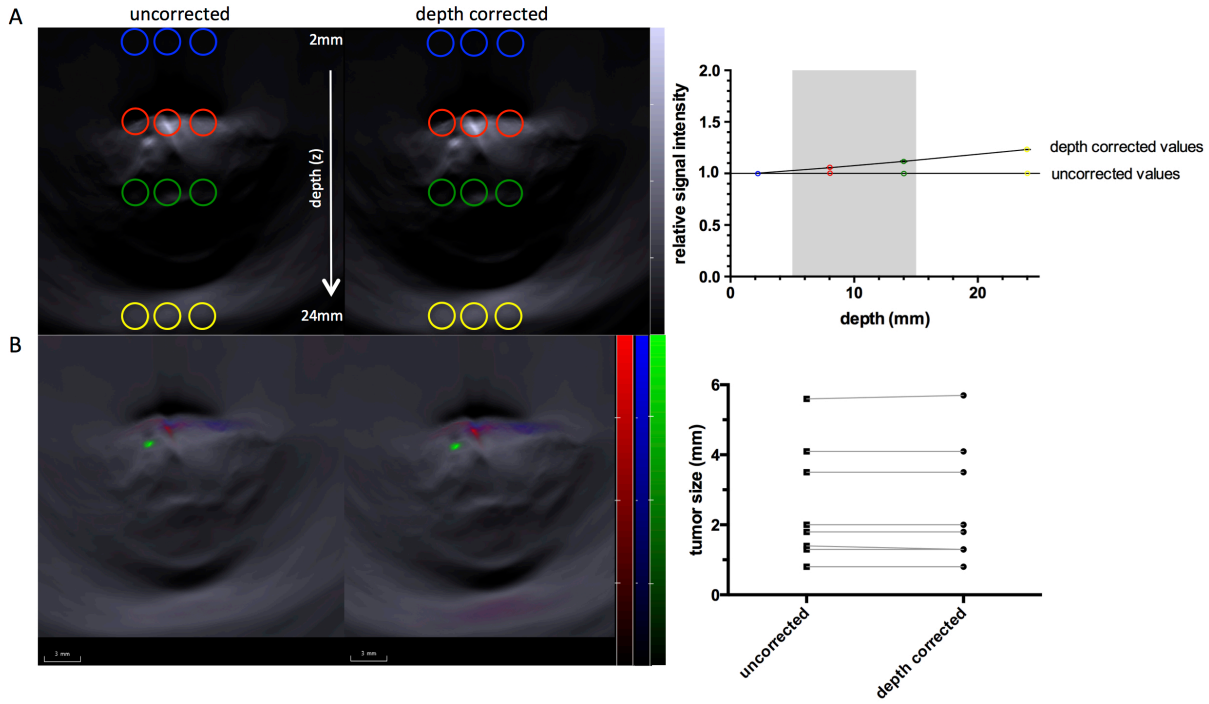

Figure S2. A. Within the area where the target object was placed (5mm > z < 15mm) the signal intensity is enhanced by up to 10% by the depth correction function (background: 0.1 cm^{-1} absorption, 70% oxygenation) with increasing depth relative to the corresponding uncorrected values at the same depth (mean of 3 ROI sets at 2, 8, 14 and 24 mm). The actual visual difference this function makes on an image scaled minimum to maximum was, thus, very subtle as the uncorrected and depth corrected images show (signal display at 800nm). **B.** The same observation was confirmed for the spectrally unmixed datasets. An example is shown here: four representative uncorrected image sets and the corresponding four depth corrected image sets (depth correction: background: 0.1 cm^{-1} absorption, 70% oxygenation) with varying tumor sizes were analyzed for tumor size based on the same spectral unmixing procedure for oxygenated hemoglobin (red), deoxygenated hemoglobin (blue) and melanin (green) (background set at 860nm). There was no affection of tumor size assessments detected by the application of the depth correction function prior to spectral unmixing ($p > 0.1$).