

## Supporting Information

for Adv. Sci., DOI 10.1002/advs.202202907

Long-Duration and Non-Invasive Photoacoustic Imaging of Multiple Anatomical Structures in a Live Mouse Using a Single Contrast Agent

Anjul Khadria, Chad D. Paavola, Yang Zhang, Samuel P. X. Davis, Patrick F. Grealish, Konstantin Maslov, Junhui Shi, John M. Beals\*, Sunday S. Oladipupo\* and Lihong V. Wang\*

## **Supplementary information**

Long-duration and non-invasive photoacoustic imaging of multiple anatomical structures in a live mouse using a single contrast agent

Anjul Khadria<sup>1</sup>, Chad D. Paavola<sup>2</sup>, Yang Zhang<sup>1</sup>, Samuel P. X. Davis<sup>1</sup>, Patrick Grealish<sup>2</sup>, Konstantin Maslov<sup>1</sup>, Junhui Shi<sup>1</sup>, John M. Beals<sup>3</sup>\*, Sunday S. Oladipupo<sup>2</sup>\*, Lihong V. Wang<sup>1</sup>\*

<sup>1</sup>Caltech Optical Imaging Laboratory, Andrew and Peggy Cherng Department of Medical Engineering, Department of Electrical Engineering, California Institute of Technology, Pasadena, California, 91125, USA

<sup>2</sup>Lilly Research Laboratories, Eli Lilly and Company, Lilly Corporate Center, Indianapolis, Indiana, 46285, USA

<sup>3</sup>Lilly Research Laboratories, Eli Lilly and Company, Lilly Biotechnology Center, San Diego, California, 92121, USA



Figure S1: Overlay of sulfo-cy7.5 labeled (light blue) and unlabeled (dark blue) IgG4 isotype control antibody.



**Figure S2:** Long-duration imaging of multiple biological features in mouse ear skin after injection of dye-labeled monoclonal IgG4 isotype control antibody. All color bars represent normalized photoacoustic amplitude and range from 0 to 1. Scale bar, 500 µm.



**Figure S3:** Detection of signals from dye-labeled IgG4 antibody even after 50 days of injection confirming its slow clearance rate. Scale bar,  $500 \mu m$ .



**Figure S4:** Visualization of deep medial lymphatic vessel and lymph node in the mouse leg and thigh 185 minutes after the injection of dye-labeled IgG4 antibody in mouse hind-paw using PACT. LV, lymphatic vessel; LN, lymphatic node; PA, photoacoustic. Scale bar, 0.4 cm.