# **Directed Evolution of a Genetically Encoded Contrast Agent for Ultrasound** Robert Hurt<sup>1</sup>, Daniel Sawyer<sup>1</sup>, David Mittelstein<sup>1</sup>, Katie Wong<sup>1</sup>, Ramya Deshpande<sup>1</sup>, Mikhail Shapiro<sup>2,#</sup>

<sup>1</sup>Division of Biology and Biological Engineering, <sup>2</sup>Division of Chemistry and Chemical Engineering, California Institute of Technology; #contact: mikhail@caltech.edu

- several cm and a spatial resolution of tens of µm.
- mammalian cells.
- temperatures.
- fluorescent counterparts.

# Nonlinear contrast Toxicity





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1 A31V

2 V27T

3 G26L

XYZ Motorized Arms

Petri Dishes



