

**Figure S1**. HEK293T mARG<sub>ds</sub> clonal cell line after freezing, thawing, and passaging for 5 passages post-thaw. Cells exhibit ultrasound contrast after doxycycline treatment (SNR = 24 dB, A) compared to cells that underwent no doxycycline treatment (SNR = 5.5 dB, B). Doxycycline-treated cells exhibit double-positive fluorescence (C) and evidence of gas vesicle formation under phase-contrast imaging (D) compared to negative controls (E). Scale bar = 10  $\mu$ m.



**Figure S2**. HEK293T mARG<sub>ds</sub> mixed-population cell line after freezing, thawing, and passaging for 5 passages post-thaw. Cells exhibit ultrasound contrast after doxycycline treatment (SNR = 29 dB, A) compared to cells that underwent no doxycycline treatment (SNR = 6.6 dB, B). Doxycycline-treated cells exhibit double-positive fluorescence (C) and evidence of gas vesicle formation under phase-contrast imaging (D) compared to negative controls (E). Scale bar = 10  $\mu$ m.