

Regressed Equations Trained on All Data

The regressions trained with all data.

$$\begin{aligned} \text{Reg1}_{\text{all}} = & -0.29 * \frac{\Sigma_{CD45} - 71.85 \text{ dBct}}{3.43 \text{ dBct}} \\ & + 0.14 * \frac{\Sigma_{PanCK} - 70.35 \text{ dBct}}{4.32 \text{ dBct}} \\ & + 0.13 * \frac{\Sigma_{DAPI} - 74.72 \text{ dBct}}{2.88 \text{ dBct}} \\ & + 0.10 * \frac{\Sigma_{Bodipy} - 72.23 \text{ dBct}}{5.37 \text{ dBct}} \\ & + 0.02 * \frac{\langle r_f \rangle_{Bodipy} - 0.87 \mu m^{-1}}{0.06 \mu m^{-1}}, \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Reg2}_{\Sigma} = & -0.31 * \frac{\Sigma_{CD45} - 71.85 \text{ dBct}}{3.43 \text{ dBct}} \\ & + 0.18 * \frac{\Sigma_{DAPI} - 74.72 \text{ dBct}}{2.88 \text{ dBct}} \\ & + 0.17 * \frac{\Sigma_{PanCK} - 70.35 \text{ dBct}}{4.32 \text{ dBct}}, \end{aligned} \quad (2)$$

$$\begin{aligned} \text{Reg3}_{DAPI+CD45+PanCK} = & -0.33 * \frac{\Sigma_{CD45} - 71.85 \text{ dBct}}{3.43 \text{ dBct}} \\ & + 0.26 * \frac{\Sigma_{PanCK} - 70.35 \text{ dBct}}{4.32 \text{ dBct}} \\ & + 0.15 * \frac{\Sigma_{DAPI} - 74.72 \text{ dBct}}{2.88 \text{ dBct}} \\ & + 0.08 * \frac{\langle r_f \rangle_{PanCK} - 0.89 \mu m^{-1}}{0.05 \mu m^{-1}} \\ & - 0.04 * \frac{\langle r_f \rangle_{CD45} - 0.96 \mu m^{-1}}{0.05 \mu m^{-1}}, \end{aligned} \quad (3)$$

$$\begin{aligned} \text{Reg4}_{DAPI+Bodipy+CD45} = & -0.27 * \frac{\Sigma_{CD45} - 71.85 \text{ dBct}}{3.43 \text{ dBct}} \\ & + 0.18 * \frac{\Sigma_{Bodipy} - 72.23 \text{ dBct}}{5.37 \text{ dBct}} \\ & + 0.17 * \frac{\Sigma_{DAPI} - 74.72 \text{ dBct}}{2.88 \text{ dBct}} \\ & + 0.02 * \frac{\langle r_f \rangle_{Bodipy} - 0.87 \mu m^{-1}}{0.06 \mu m^{-1}}, \end{aligned} \quad (4)$$

$$\begin{aligned} \text{Reg5}_{DAPI+CD45} = & -0.32 * \frac{\Sigma_{CD45} - 71.85 \text{ dBct}}{3.43 \text{ dBct}} \\ & + 0.31 * \frac{\Sigma_{DAPI} - 74.72 \text{ dBct}}{2.88 \text{ dBct}}, \end{aligned} \quad (5)$$

$$\begin{aligned} \text{Reg6}_{DAPI+PanCK} = & 0.38 * \frac{\langle r_f \rangle_{DAPI} - 0.84 \mu m^{-1}}{0.06 \mu m^{-1}} \\ & + 0.29 * \frac{\Sigma_{DAPI} - 74.72 \text{ dBct}}{2.88 \text{ dBct}} \\ & - 0.20 * \frac{\langle M \rangle_{DAPI} - 3.32}{1.26} \\ & + 0.08 * \frac{\Sigma_{PanCK} - 70.35 \text{ dBct}}{4.32 \text{ dBct}} \\ & + 0.05 * \frac{\langle r \rangle_{PanCK} - 4.88 \mu m}{1.38 \mu m}, \end{aligned} \quad (6)$$

$$\begin{aligned} \text{Reg7}_{DAPI+Bodipy} = & 0.33 * \frac{\langle r_f \rangle_{DAPI} - 0.84 \mu m^{-1}}{0.06 \mu m^{-1}} \\ & + 0.23 * \frac{\Sigma_{DAPI} - 74.72 \text{ dBct}}{2.88 \text{ dBct}} \\ & + 0.18 * \frac{\Sigma_{Bodipy} - 72.23 \text{ dBct}}{5.37 \text{ dBct}} \\ & - 0.16 * \frac{\langle M \rangle_{DAPI} - 3.32}{1.26}, \end{aligned} \quad (7)$$

$$\begin{aligned} \text{Reg8}_{DAPI} = & 0.39 * \frac{\langle r_f \rangle_{DAPI} - 0.84 \mu m^{-1}}{0.06 \mu m^{-1}} \\ & + 0.35 * \frac{\Sigma_{DAPI} - 74.72 \text{ dBct}}{2.88 \text{ dBct}} \\ & - 0.15 * \frac{\langle M \rangle_{DAPI} - 3.32}{1.26}, \end{aligned} \quad (8)$$

$$\begin{aligned} \text{Reg9}_{Bodipy} = & 0.50 * \frac{\Sigma_{Bodipy} - 72.23 \text{ dBct}}{5.37 \text{ dBct}} \\ & - 0.50 * \frac{\langle r \rangle_{Bodipy} - 4.92 \mu m}{1.30 \mu m} \\ & + 0.42 * \frac{\langle M \rangle_{Bodipy} - 4.24}{0.97}, \end{aligned} \quad (9)$$

$$\begin{aligned} \text{Reg10}_{CD45} = & 1.19 * \frac{\langle M \rangle_{CD45} - 4.56}{1.42} \\ & - 0.83 * \frac{\langle r \rangle_{CD45} - 4.74 \mu m}{1.39 \mu m} \\ & - 0.29 * \frac{\Sigma_{CD45} - 71.85 \text{ dBct}}{3.43 \text{ dBct}} \\ & - 0.14 * \frac{\langle r_f \rangle_{CD45} - 0.96 \mu m^{-1}}{0.05 \mu m^{-1}}, \end{aligned} \quad (10)$$

$$\begin{aligned} \text{Reg11}_{PanCK} = & 0.52 * \frac{\Sigma_{PanCK} - 70.35 \text{ dBct}}{4.32 \text{ dBct}} \\ & + 0.29 * \frac{\langle r_f \rangle_{PanCK} - 0.89 \mu m^{-1}}{0.05 \mu m^{-1}}, \end{aligned} \quad (11)$$