

List of accessible datasets used for figures

Figure 2

All files for Fig. 2 are csv tables where each row represents a culture sample measured using cytometry (10 000 cells).

Fig. 2B - FIG2B_const.csv

Fig. 2C - FIG2C_optoboxdata.csv

Fig. 2D - FIG2D_optotubesdata.csv

Fig. 2E - FIG2E_evolverdata.csv

Fig. 2F - FIG2F_optofldata.csv

Figure 3

Fig. 3B - FIG3B_PICS.zip – Original pictures from the microscope

Fig. 3C and D are excel files containing, per device and culture condition, all the measured beta-carotene contents determined for constitutive beta-carotene production in strain yPH_554, as detailed in Methods.

Fig. 3C - FIG3C-D_data.xlsx

Fig. 3D - FIG3C-D_data.xlsx

Figure 4

Similar to Fig 3 and D, data for Fig. 4B is an excel containing all contents for samples and culture conditions tested for the optogenetic beta-carotene production un yPH_551.

Fig. 4B - Fig4B_data.xlsx

Fig. 4C - FIG4C_data.csv – Compilation of data from Fig. 2 and Fig. 4B to compare beta-carotene production in the opto-beta-carotene strain to the actual measured optogenetic activation.