

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: **Time-lapse microscopy of dividing Mal15^T cells.** Cells of strain Mal15^T were observed during their cell division cycle using the CellASIC® ONIX Microfluidic Platform. Elastically trapped cells were cultivated in M1H NAG ASW and supplemented with 3.3 µL acetone. Cells were monitored for 32 h at 28 °C. Images were taken every 10 min using phase contrast microscopy. Cells start to divide after 6.25 h in average, if no stieleriaccine A₁ was applied to the experimental setting.

File Name: Supplementary Movie 2

Description: **Time-lapse microscopy of dividing Mal15^T cells treated with 1.34 µM stieleriaccine A₁.** To analyse the physiological effect of stieleriaccine A₁ under microfluidic conditions, Mal15^T cells were observed during their cell division cycle using the CellASIC® ONIX Microfluidic Platform. Elastically trapped cells were cultivated in M1H NAG ASW supplemented with 1.34 µM stieleriaccine A₁ dissolved in 3.3 µL acetone. Cells were monitored for 32 h at 28 °C. Images were taken every 10 min using phase contrast microscopy. Mimicking a dense population by adding constantly physiological concentrations (1.34 µM) of stieleriaccine A₁ leads to a significantly reduced lag phase compared to untreated cultures (5.16 h).