**Single-cell level experiments folder:**

It contains the single-cell data of the pharmacological and spatial perturbations for the circadian and cell cycle signals and the division events.

The circadian and cell cycle rhythms data used for Figures 2d, e, j, and k are in the subfolder: Circadian\_CellCycle\_Signals. The file names contain the density condition and the inhibitor concentration and the corresponding rhythm. Each file has a first column for the time in timepoints (every 30 min) and subsequent columns as cell IDs show the individual data.

The division matrices used for Figures 4a, b, c, and d of the manuscript are in the subfolder: Division\_Matrix. The file names contain the density condition and the inhibitor concentration. Each column has the cell ID as a header and values of 0 for no division and 1 for division events.

We performed a biological replicate of this experiment, available upon request.

**Population level experiments folder:**

It contains the population data of the pharmacological and spatial perturbations (subfolder: Population\_experiments\_perturb\_pharmac\_spatial) and the genetic perturbations (subfolder: Population\_experiments\_perturb\_pharmac\_spatial).

The experiments of pharmacological and spatial perturbations are in the following file:

“Circadian\_extra\_coupling.xlsx”. It contains the two technical replicates (plate1: first two excel sheets and plate2: the last two sheets). The Confluence sheets (sheet 1and 3) stand for the confluence data of the wells and the Counts sheet have the data for the number of fluorescent objects. “A1” corresponds to the conditions with the highest inhibitor concentration, “A2” to the medium inhibitor concentration, and “A6” to the untreated condition, all at the highest seeding density. “B6” corresponds to the untreated condition at the medium seeding density and “C6” is the untreated at the low seeding density. The time is in hours in the column “Elapsed”, we had a frame per hour.

The experiments of genetic perturbations are in the following file:

“U2OS\_3osc\_dko\_1stplate.xlsx”. It contains the three technical replicates which are the column names 1, 2, and 3 for the untreated cells and for treated cells we have 4, 5, and 6. The A columns are the cells with the double knockout and the D cells are the wild-type. The time is in hours in the column “Elapsed”, we took images every 1,5 hours.