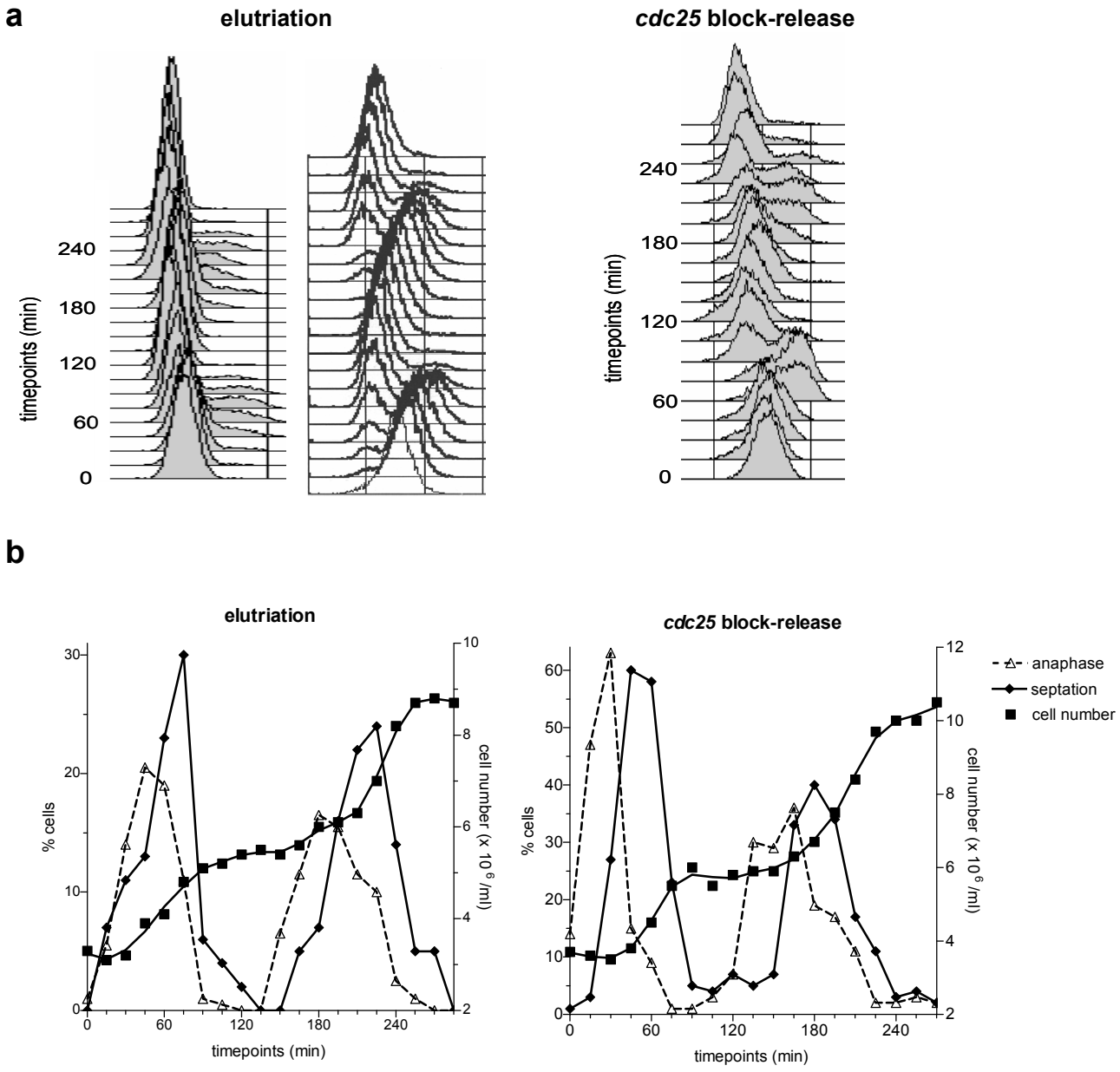

Supplementary Figure 1 Various cell cycle events measured for two synchronized experiments. Elutriation #2 and *cdc25* 'block-release' #1 as in **Fig. 2** are shown as examples.

(**a**) DNA content (grey) and cell size measured by flow cytometry (FACS). Cells fixed with 70% ethanol were washed once with 10 mM EDTA, pellets resuspended in 500 µl of 10 mM EDTA + 50 µg/ml RNase A and incubated at 37°C o/n. After addition of 500 µl of 10 mM EDTA + 50 µg/ml Propidium iodide, the samples were sonicated before flow cytometry in a Beckman Epics XL-MCL Coulter. Fission yeast cells start DNA replication before cell separation and therefore show mainly a C2 peak throughout the cycle.

(**b**) Percentages of cells in mitotic anaphase (unseptated cells with two nuclei), cells with division septum (septation index), and increase in cell numbers. *cdc25* cells are typically delayed in nuclear division and septation, leading to higher anaphase and septation indices; synchrony itself is only marginally better compared to the elutriation experiments (see cell counts and expression profiles). Anaphase cells were counted after fixation in 70% ethanol, washing with water, and resuspension in water + 0.5 µg/ml DAPI. Samples were visualised by fluorescence microscopy (Zeiss Axioskop). The septation index was determined by counting the numbers of cells with septum by phase contrast microscopy of unfixed cells, which gives lower values compared to Calcofluor-stained cells. For measuring cell numbers, 700 µl cultures were fixed in 1.4 ml formal saline (0.9% saline, 3.7% formaldehyde). 200-500 µl of the cells were diluted (40X-100X) in Isoton II and measured using a Beckman Coulter counter.