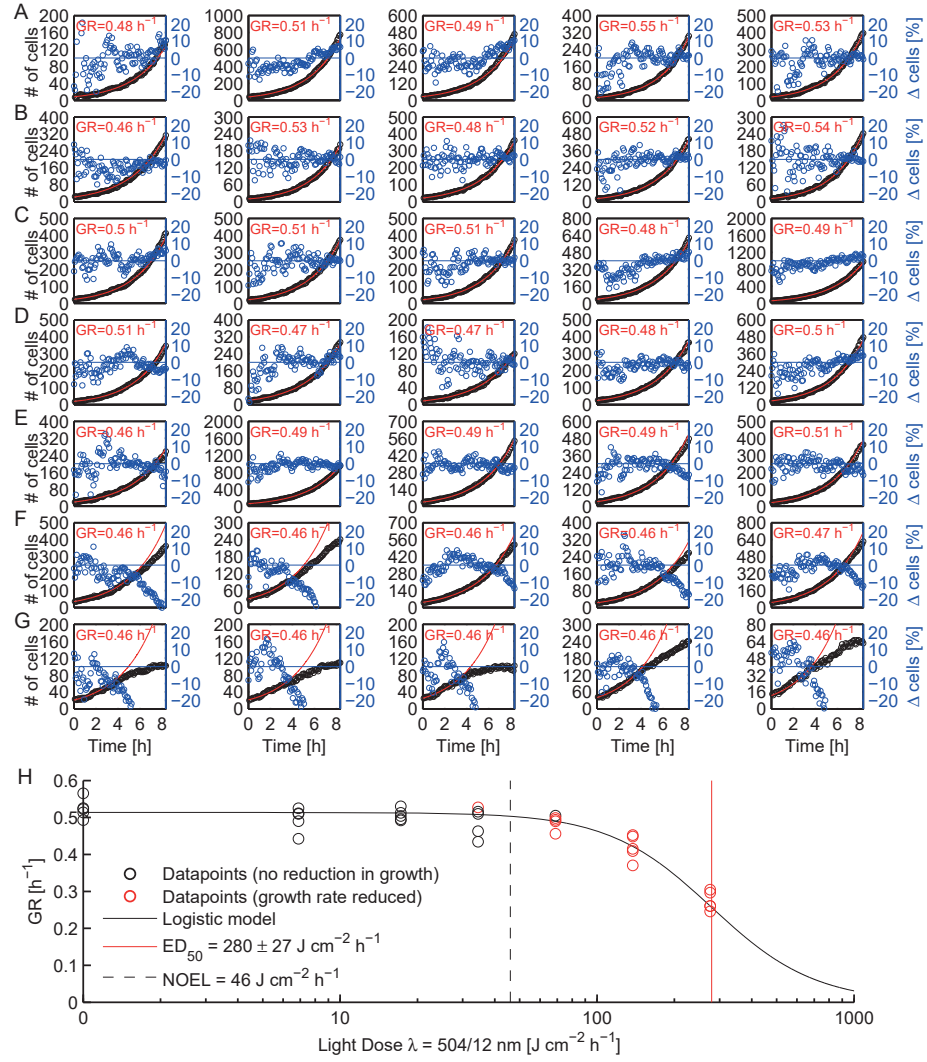


Figure S6: Determination of the no-observed effect level (NOEL) as the detection limit of the growth rate assay



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**Figure S6 (*previous page*)**

*S. cerevisiae* cells were loaded in the microfluidic device and grown in Smin+glucose. Brightfield images were captured in a five minute interval. Cells were exposed to different doses of teal excitation light. A: Cells were counted in each frame and plotted against the experiment time (black circles, left axis). An exponential growth model was fitted to the first 80 frames (red line and text). The fit parameter for the growth rate was restricted to the confidence interval of the control growth rates at determined earlier (Figure S1). The difference in percent between the measured cell number and the cell number predicted from the fit in each frame was plotted against the experiment time (blue circles, right axis). In cases where the median difference in percent during the last 20 frames was deviating by more than -2%, the growth was regarded as being affected by photomorbidity. B: The average growth rate as determined from the first and last frame of the experiment was plotted against the applied light dose (black and red circles). Measurements where photomorbidity was detected as described in (A) are colored in red, whereas measurements with unaffected growth are colored in black. The black line indicates the fit of the sigmoidal model. The detection limit of photomorbidity lies between the control groups at 34 and 69 J cm<sup>-2</sup> h<sup>-1</sup>, which coincides with the light dose at which the sigmoidal fit reaches 98% of the control growth rate. We define this light dose as the no-observed effect level (NOEL). The NOEL and the effective dose (ED<sub>50</sub>) are indicated by vertical lines. Model fit parameters are given with  $\pm$  95% confidence interval.

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