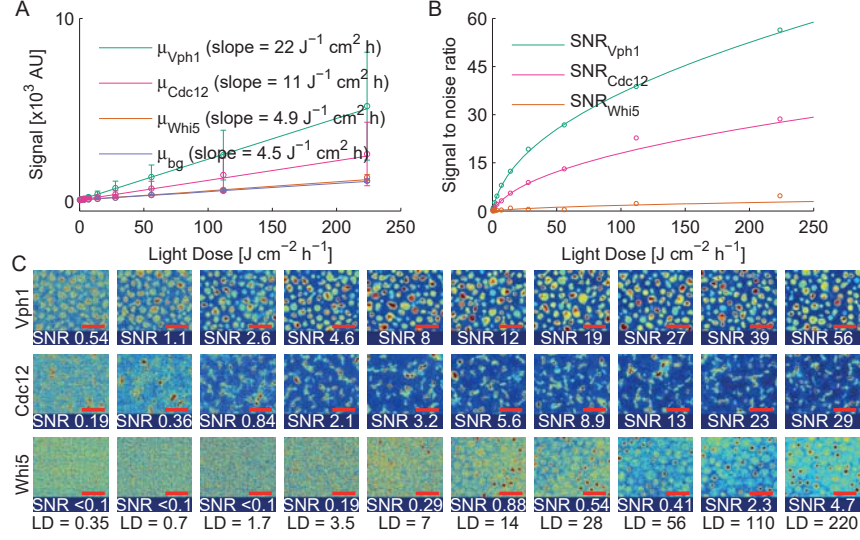


Figure S19: Background, brightness and SNR of *S. cerevisiae* strains tagged with mKate2



A: Total fluorescence of strains tagged with mKate2 is plotted against the light dose (based on a measurement with 5 min interval time). Every point indicates a measurement (mean \pm standard deviation are shown). The total fluorescence is linearly correlated with the light dose. The *in vivo* brightness is obtained by subtracting the background signal (μ_{bg}) from total signal (μ_{Vph1} , μ_{Cdc12} or μ_{Whi5}). The resulting slopes of the linear functions depend on the abundance of the tagged protein and the brightness of the fluorescent protein. B: Signal-to-noise ratio for strains tagged with mKate2 at different light doses. C: False colored fluorescence images of cells expressing different mKate2 fusion proteins at different light doses. Images are contrast enhanced by stretching the histogram between 1% of the highest and lowest pixel values. SNR values were calculated for each image and are displayed inside the corresponding images. Pictures correspond to data points in Panel A & B and light doses are shown below the images. Scale bars represent $10 \mu\text{m}$.