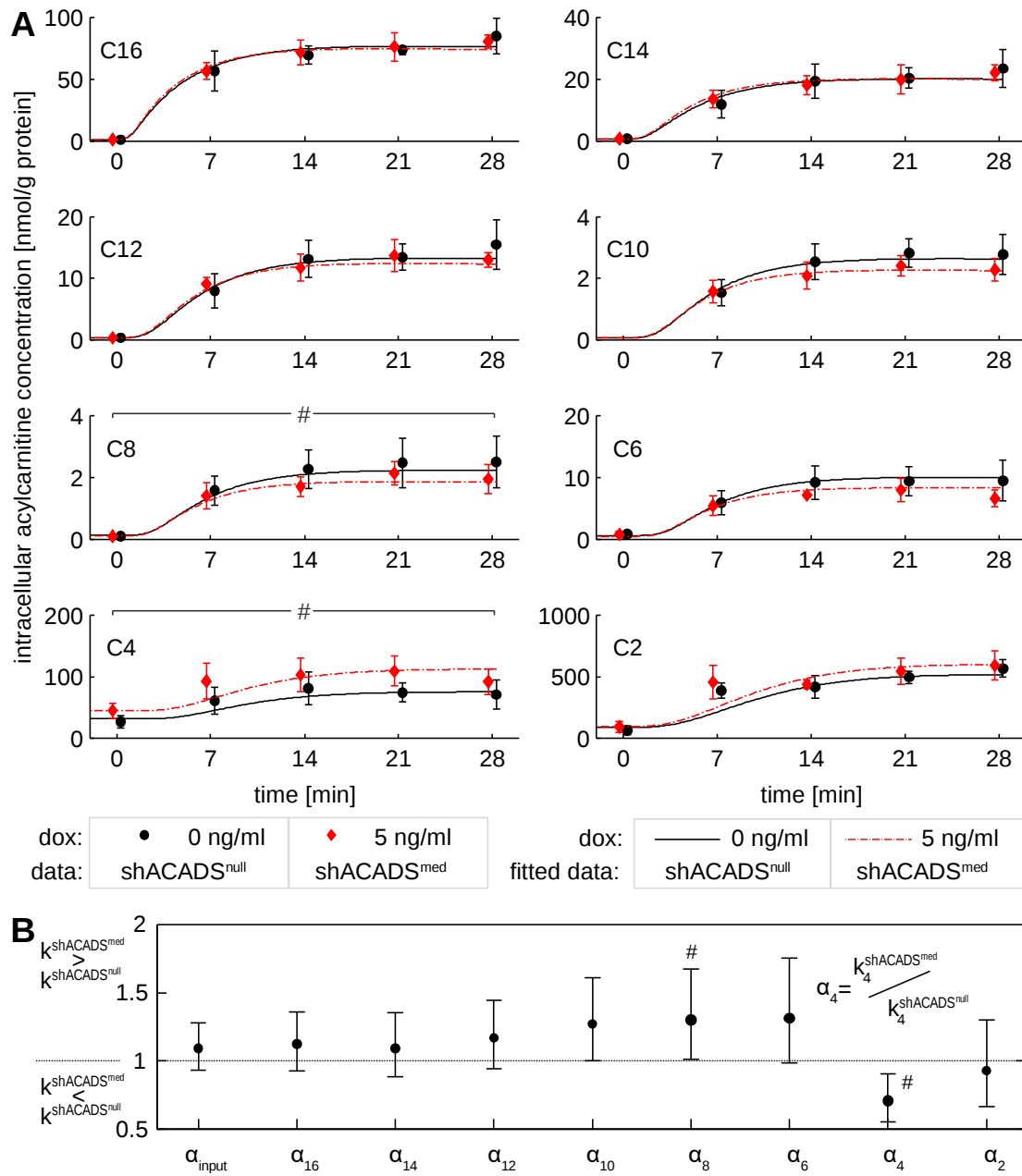




S6 Fig. Model-based analysis of intracellular acylcarnitine time course data in cells with intermediate ACADS knockdown. (A) Results from fitting the linear fatty acid oxidation model to the null (shACADS^{null}) and intermediate (shACADS^{med}) ACADS knockdown data. Intracellular acylcarnitine levels, representing acyl-CoAs with corresponding chain length, were extracted and measured before palmitic acid loading and 7, 14, 21 and 28 min after loading in shACADS knockdown Huh7 cells, i.e. shACADS^{null} and shACADS^{med} cells treated with 0 and 5 ng/ml doxycycline (dox), respectively, for shRNA induction. Values of four independent experiments are shown as mean $\pm$ SD (original data of single measurements are given in S1A Table). (B) FAO model-based quantification of differences in acylcarnitine flux dynamics. shACADS^{med} and shACADS^{null} are compared by the ratio $\alpha = k^{\text{shACADS}^{\text{med}}} / k^{\text{shACADS}^{\text{null}}}$, reaction rates k are derived from the FAO model fits. α -values from best model fits are represented as dots with respective 95% confidence intervals. (A+B) # indicates significant difference ($p < 0.05$) between reaction rate $k^{\text{shACADS}^{\text{med}}}$ and $k^{\text{shACADS}^{\text{null}}}$ of the respective knockdown experiments. For details of dynamical FAO modelling, see materials and methods, S4-6 Figs and S1 Text. Compared to the null knockdown, in the intermediate knockdown reaction rate k_4 is significantly decreased, whereas reaction rate k_8 is significantly increased.