

**ESM Fig. 6** cAMP and insulin sensitivity in *Chop+/+* and *Chop-/-* preadipocytes. (**a**) The levels of cAMP during adipocyte differentiation. Cell lysates were collected at day 0, day 1, and day 2 after induction of adipogenesis. cAMP levels were measured using cAMP ELISA kit (Enzo Life Sciences, Farmingdale, NY, USA) according to manufacturer's instruction. Three independent experiments were performed. Data are presented as means  $\pm$  SEM. (**b**) No difference in insulin response. *Chop+/+* and *Chop-/-* MEFs were treated with 100nM insulin for 15 minutes, followed by measurement of glucose uptake using glucose uptake cell-based assay kit (Cayman, Ann Arbor, MI, USA). Three independent experiments were performed. Data are presented as means  $\pm$  SEM.