Figure Legends

Figure 4. Protein expression during acinar cell dedifferentiation in monolayer culture. The protein expression of Amylase (**A**), Chymotrypsinogen (**B**), Elastase (C), β-catenin (**D**), E-cadherin (**E**), and Nestin (**F**), α-SM actin (**G**), Desmin (**H**), β-actin (**I**), cytokeratin 8 (**J**), cytokeratin 17 (**K**), and cyclophillin (**L**) was measured by western blot. Solid black and dashed red lines represent the control and 1nM CCK treated groups respectively. "T" stands for treatment with CCK. All results shown are expressed as fold increase compared with the fresh acini and are means ± SE of 4-6 individual experiments. For panels A, B, D, E, and L duplicate culture wells were run on gels, imaged and after quantification the image spliced to show only one lane per condition as described in Methods. For this reason a white line was placed between the lanes.***P*<0.01; **P*<0.05 compared with the value of fresh acini.

Figure 6. Induction of cyclin D expression during acinar cell culture. Acinar cells were cultured for the time indicated in control media (solid line) or with 1 nM CCK (dashed red line). RNA or protein was extracted and samples were analyzed by quantitative real-time PCR or western blot. The expression of cyclin D1, D2 and D3 mRNA (**A**), (**B**), (**C**) and protein (**D**), (**E**), (**F**), were measured. Results are expressed as fold increase compared with the fresh acini and means ± SE of 4-6 individual experiments. For panels D, E, and F duplicate culture wells were run on gels, imaged and after quantification the image was spliced to show only one lane per condition as described in Methods. For this reason a white line is placed between the lanes.***P*<0.01; **P*<0.05 compared with the value of fresh acini. ‡‡*P*<0.01; ‡*P*<0.05 compared with the non CCK treated group at the same time point (dashed v.s. solid line).

Figure 7. Induction of c-jun expression and AP-1 activation by CCK in cultured acinar cell. (**A**) and (**B**), Acinar cells were cultured for 24 hours and then were stimulated with 1 nM CCK for the indicated time. c-jun protein induction was measured (**A**), while cyclophilin A was used as control (**B**). Pooled data are means ± SE of 4-6 individual experiments and expressed as fold increase of non CCK treated control. ***P*<0.01; **P*<0.05 compared with the values at time 0, non CCK treated control. (**C**), Acinar cells were cultured for 24 h followed by treatment with 1 nM CCK for 3 hours. The DNA binding activity of AP-1 was examined by EMSA. Specificity of AP-1 DNA binding was determined by addition of excess of 50-fold unlabeled AP-1 consensus sequence (competitor). Supershift EMSA was performed using antibody to c-jun. The results are representative from at least 3 independent experiments. (**D**), AP-1 driven luciferase construct was delivered into acinar cells by adenoviral vector 1 h before CCK administration. The cells were stimulated with the designated concentration of CCK for 6 h. Relative luciferase activity was measured and the results were expressed as fold increase compared with the control non CCK treated group. Pooled data are means ± SE of 4 experiments. For panels A and B duplicate culture wells were run on gels, imaged and after quantification the image was spliced to show only one lane per condition as described in Methods. For this reason a white line is placed between the lanes.***P*<0.01; **P*<0.05 compared with the non CCK treated control group.

Figure 8. Inhibition of CCK induced pancreatic acinar cell proliferation by JNK inhibitor, dominant negative JNK, dominant negative c-jun and c-jun shRNA. (**A**) Effect of JNK inhibitor SP600125 on acinar cell [^{3}H]thymidine incorporation. Acinar cells were preincubated with the inhibitor at the indicated concentration for 1 h followed by addition of 1 nM CCK. Values are mean ± SE of 3-5 experiments. ***P*<0.01 compared with control CCK treated groups. (**B**) Effect of dominant negative JNK and dominant negative c-jun on acinar cell [^{3}H]thymidine incorporation. Adenovirus (10^7 pfu/ml) was added when acinar cells were plated; 1 nM CCK was added 24 h later. Values are mean ± SE of 3-5 experiments. ***P*<0.01 compared with control (no virus) CCK treated groups. (**C**) and (**D**), Reduction of CCK induced acinar cell proliferation by c-jun shRNA. Adenovirus was added at 10^7 pfu/ml when acinar cells were plated. **C,** The cells were cultured for 24 hours followed by protein extraction. The efficiency of shRNA to knockdown c-jun expression was evaluated by western blot. "NS" stands for nonspecific. ***P*<0.01 compared with control group without any adenovirus infection. **D,** Effect of c-jun shRNA on CCK induced acinar cell [^{3}H]thymidine incorporation. Values are mean ± SE of 3-5 experiments. For panel C duplicate culture wells were run on gels, imaged and after quantification the image was spliced to show only one lane per condition as described in Methods. For this reason a white line is placed between the lanes.***P*<0.01; **P*<0.05 compared with CCK treated group without any adenovirus infection.

Figure 11. Inhibition of cyclin D1 induction by dominant negative c-jun. Adenovirus was added at 10^7 pfu/ml when acinar cells were plated. The cells were cultured for 72 h in control media or with 1nM CCKand RNA or protein was extracted. Cyclin D1 mRNA (**A**) and protein (**B**) expression were examined. Pooled data are means ± SE of 3-4 experiments. For panels B duplicate culture wells were run on gels, imaged and after quantification the image was spliced to show only one lane per condition as described in Methods. For this reason a white line is placed between the lanes.**P*<0.05 compared with CCK treated group without adenovirus infection.

Figure 12. Inhibition of the expression change of β-catenin and amylase during culture by dominant negative c-jun. Adenovirus was added at 10^7 pfu/ml when acinar cells were plated. The cells were cultured for 72 h in control medium or with 1nM CCK followed by protein extraction. β-catenin (**A**) and amylase (**B**) expression were examined. Pooled data are means ± SE of 3 experiments. For panels A and B duplicate culture wells were run on gels, imaged and after quantification the image was spliced to show only one lane per condition as described in Methods. For this reason a white line is placed between the lanes.***P*<0.01; **P*<0.05 compared with the corresponding groups without adenovirus infection.