Supporting Information

Figure S1. Glycerol secretion data from differentiated adipocytes and response to isoproterenol treatment. The full data trace depicting glycerol release from differentiated adipocytes and response upon 20 μM isoproterenol treatment. Treatment of 20 μM isoproterenol is indicated by bar above trace. Exposure to isoproterenol resulted in an initial burst in glycerol release along with a sustained, elevated release.
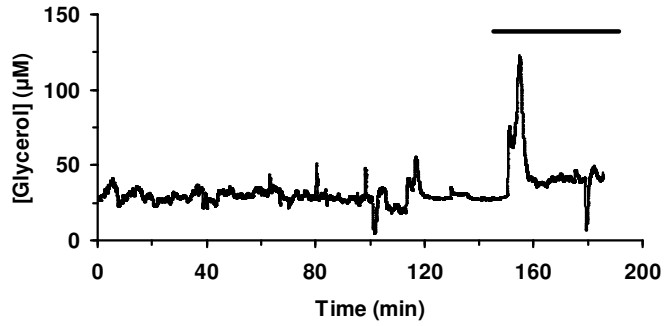
Figure S2. Characterization of perfusion cell chip. (A) Food dye was used to visualize the flow profile through the perfusion chip from the top. Laminar flow through the chip and wash-out of the food dye from the device upon switching to a clear solution were observed. (B) A representation of the fluid flow from the side of the perfusion chip was modeled using COMSOL. The model depicted fluid flow throughout the entire depth of the chamber and predicted that a steady state within the chamber was obtained after 75 s of constant perfusion of the drug isoproterenol.

A

0 s

30 s

60 s

90 s

120 s

1 cm   →   perfusion flow

B

40000 um

0.1 s

1.0 s

21 s

50 s

75 s

300 um