Supplementary Figure Legends

Figure 1S. The plasma membrane internalized GLUT2 protein undergoes rapid lysosomal degradation Min6B1 cells were transfected with myc-GLUT2. Twenty-four hour following transfection, the cells were cooled to 4°C, treated with 20μM Lactacystin (Panels: b, f and j), 1μM Geldanamycin (Panels: c, g and k) and 50μM Chloroquine (Panels: d, h and l), and then the surface exposed myc epitop was labeled with myc-antibody for 1 hour. The cells were then either fixed right after 4°C labeling (time 0, panel a-d) or warmed to 37°C for various time points (panels e-l) following by fixation and subjected to confocal fluorescent microscopy. These are representative images taken from 3-4 independent experiments.

Figure 2S. GLUT2 lysosmal degradation is beta cell specific. Fully differentiated 3T3L1 adipocytes were electroporated with 50μg each of Myc-GLUT4 (A), Myc-GLUT1 (B) and Myc-GLUT2 (C) plasmids, respectively. Twenty-four hours later, cooling the cells to 4°C, and then the cells were labeled with a myc antibody for 1 h in the presence or absence of 50μM chloroquine, The cells were then either fixed right after 4°C labeling (time 0: A, B and C panel a) or warmed to 37°C for various time points (A, B and C panels b-e) following by fixation and subjected to confocal fluorescent microscopy. These are representative images taken from 3 independent experiments.