

## Supplemental Figures Legends

**Supplemental figure 1:** (A) Representative images of N43/5 cells incubated with BSA or PA for 1 h, 2 h, 4 h or 6 h and stained against LC3 (green) and SQSTM1 (red). Nuclei are stained with DAPI (blue). Bar size 10  $\mu$ m. Quantification of LC3 (B) and SQSTM1 (C) dots per cell. (D-K) Relative mRNA gene expression of the indicated *genes* in N43/5 cells treated with BSA or PA for 1 h, 2 h, 4 h and 6 h. Data are presented as mean  $\pm$  SEM. Two ways ANOVA followed by Sidak's multiple comparisons test. \*  $p \leq 0.05$ , \*\*  $p \leq 0.01$ , \*\*\*\* $p < 0.0001$ .  $n = 3$ .

**Supplemental figure 2:** (A) Representative western blot of LC3 levels in N43/5 cell lysates, incubated with vehicle (BSA), PA (100  $\mu$ M) or SA (100  $\mu$ M) for 6 h, in presence or absence of BafA1 (100 nM), with their respective quantifications (B). (C-D) Representative western blot of SQSTM1 levels in N43/5 cell lysates, incubated with vehicle (BSA), PA (100  $\mu$ M) or SA (100  $\mu$ M) for 6 h, with their respective quantifications. (E) Representative images of N43/5 cells treated with BSA or SA (100  $\mu$ M) for 6 h in presence or absence of BafA1 (100 nM) and stained against LC3 (green) and SQSTM1 (red). Nuclei are stained with DAPI (blue). Quantification of LC3 (F) and SQSTM1 (G) dots per cell. Bar size 10  $\mu$ m. Data are presented as mean  $\pm$  SEM. Two ways ANOVA followed by Sidak's multiple comparisons test. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , \*\*\*\* $p < 0.0001$ .  $n = 3$ .

**Supplemental figure 3:** (A) Representative western blot showing relative levels of AKT phosphorylation (Ser473) induced by 15 min of insulin or PBS treatment in N43/5 cells pre-incubated with SA (100  $\mu$ M) or BSA for 6 h, with its respective quantification (B). Data are presented as mean  $\pm$  SEM. Two ways ANOVA followed by Sidak's multiple comparisons test. \*\*\* $p < 0.001$ , \*\*\*\* $p < 0.0001$ .  $n = 3$ .

**Supplemental figure 4:** (A) mRNA levels of *Glut4* in N43/5 cells exposed to control (DMSO) or BafA1 for 6 h. (B, C) mRNA levels of *Glut 4* in N43/5 cells transfected with a siRNA to downregulate BECN1 (B) or ATG7 (C). As control condition, cells were incubated with Lipofectamine RNAiMAX reagent only (Mock). Data are presented as mean  $\pm$  SEM. Unpaired t test. \* $p < 0.05$ .  $n = 3$ .

**Supplemental figure 5:** mRNA levels of the indicated genes in hypothalamic tissue in mice gavaged with BSA or PA for 3 days. Data are presented as mean  $\pm$  SEM. Unpaired t test. . \* $p < 0.05$ .  $n = 3$ .

**Supplemental figure 6:** mRNA levels of *Glut4* in N43/5 cells exposed to vehicle (BSA), GW1100 or PA for 6 h as indicated. In case of GW1100 and PA treatment, cells were pre-exposed to GW1100 for 20 min, followed by GW1100 and PA exposure for 6 h. Data are presented as mean  $\pm$  SEM. One way ANOVA followed by Holm Sidak's multiple comparisons test.  $n = 3$ .

**Table 1:** Mouse primers used for real time PCR

Gene	Forward Primer	Reverse Primer
<i>Ffar1</i>	TGGACAACAGTACCAGTT	GGGAGCCATTCACGGGTAT
<i>Atg7</i>	CTGTTACACCAAAGTTCTTG	TCTAAGAAGGAATGTGAGGAG
<i>Sqstm1/p62</i>	AATGTGATCTGTGATGGTTG	GAGAGAAGCTATCAGAGAGG
<i>Lc3</i>	GCTCATCAAGATAATCAGACG	GCATAAACCATGTACAGGAAG
<i>Hprt1</i>	AAGCCTAAGATGAGCGCAAG	TTACTAGGCAGATGGCCACA
<i>Glut4</i>	GAGCCTGAATGCTAATGGAG	GAGAGAGAGCGTCCAATGTC
<i>Atg5</i>	TCAACCGGAAACTCATGGAA	CGGAACAGCTTCTGGATGAA
<i>Atg16</i>	AGGCGTTCGAGGAGATCATT	TTCTGCTTGTAGTTTCTGGGTCA
<i>Beclin</i>	TTGGGTGATGTGGGGAAAGG	AGACAGCACAGGAGGCATTC
<i>Fip200</i>	ACCACGCTGACATTTGACACT	CTCCATTGACCACCAGAACC
<i>Gabarap</i>	GCCTACAGTGATGAAAGCGTCTA	GAGCCTGAAGGAGGAACTGG