

Supplementary Information

Leptin induced GRP78 expression through the PI3K-mTOR pathway in neuronal cells

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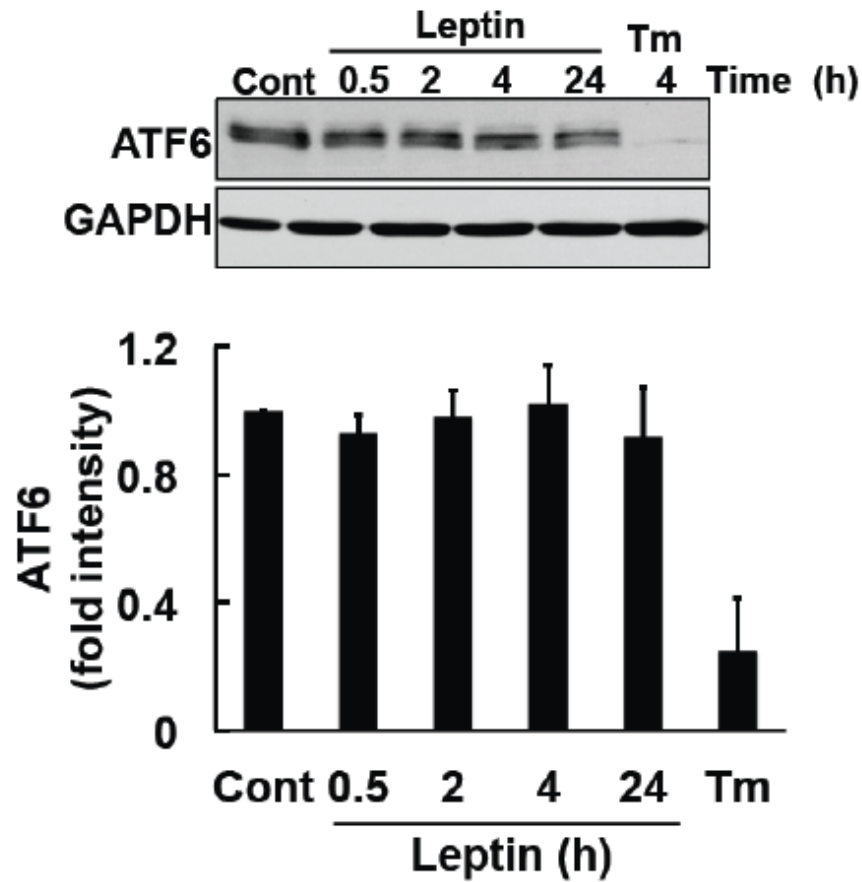
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Supplementary information includes:

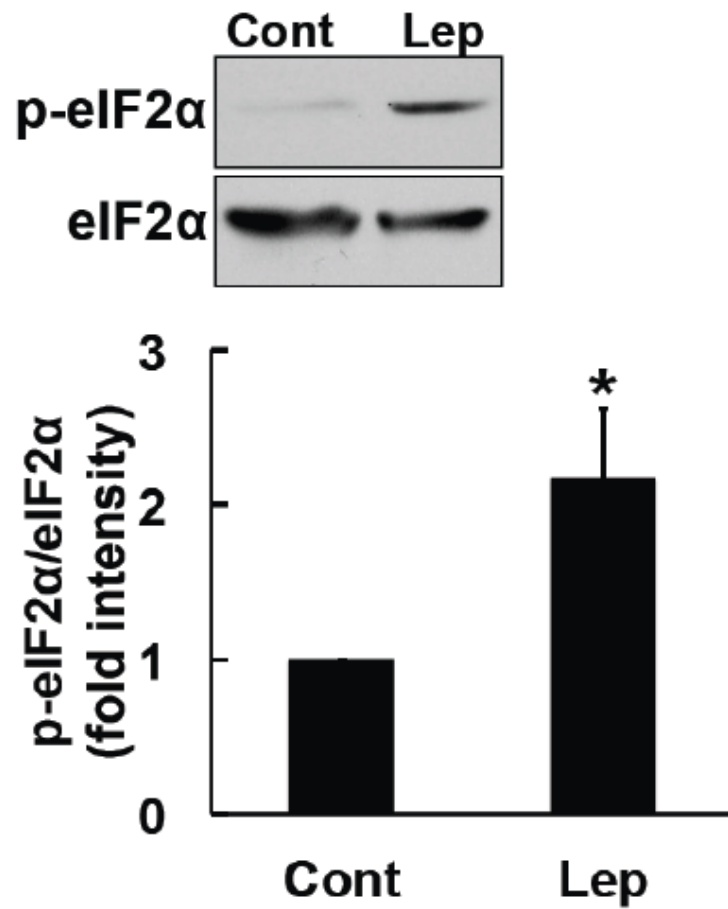
Supplementary Figures S1 to S4

Supplementary Figure 1.



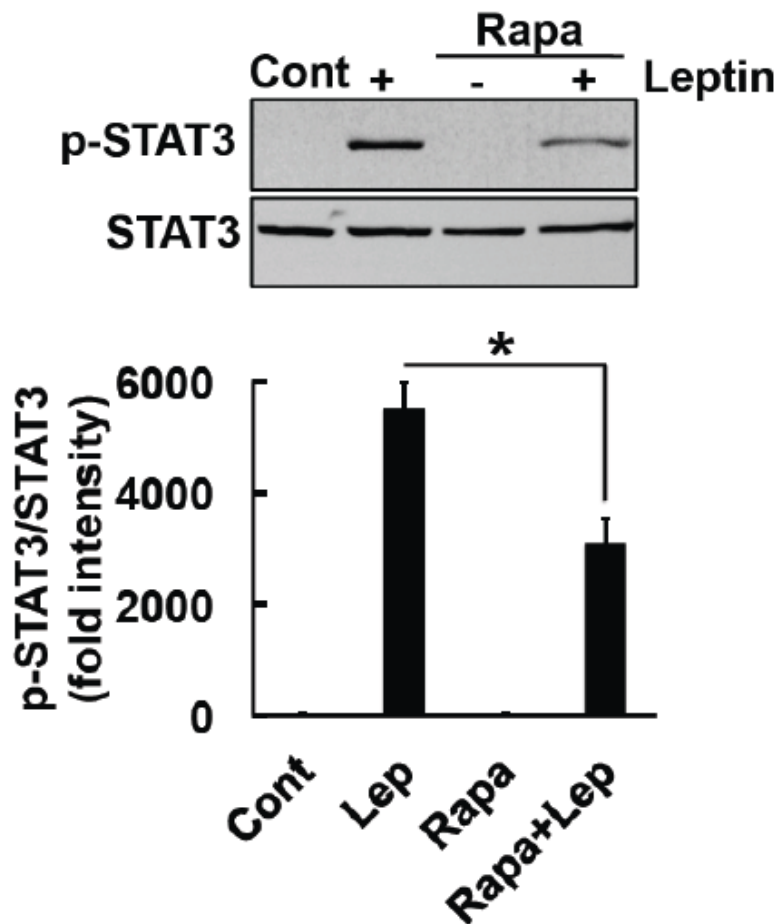
Supplementary Figure 1. Leptin did not induce ATF6 processing. SH-SY5Y-ObRb cells were treated with leptin (0.5 $\mu\text{g/ml}$) for 0.5, 2, 4, and 24 h. Tunicamycin (Tm) (1 $\mu\text{g/ml}$, 4 h) was used as the positive control. Densitometric analysis of ATF6 levels using image analyzing software. Typical data of 3 independent experiments were shown.

Supplementary Figure 2.



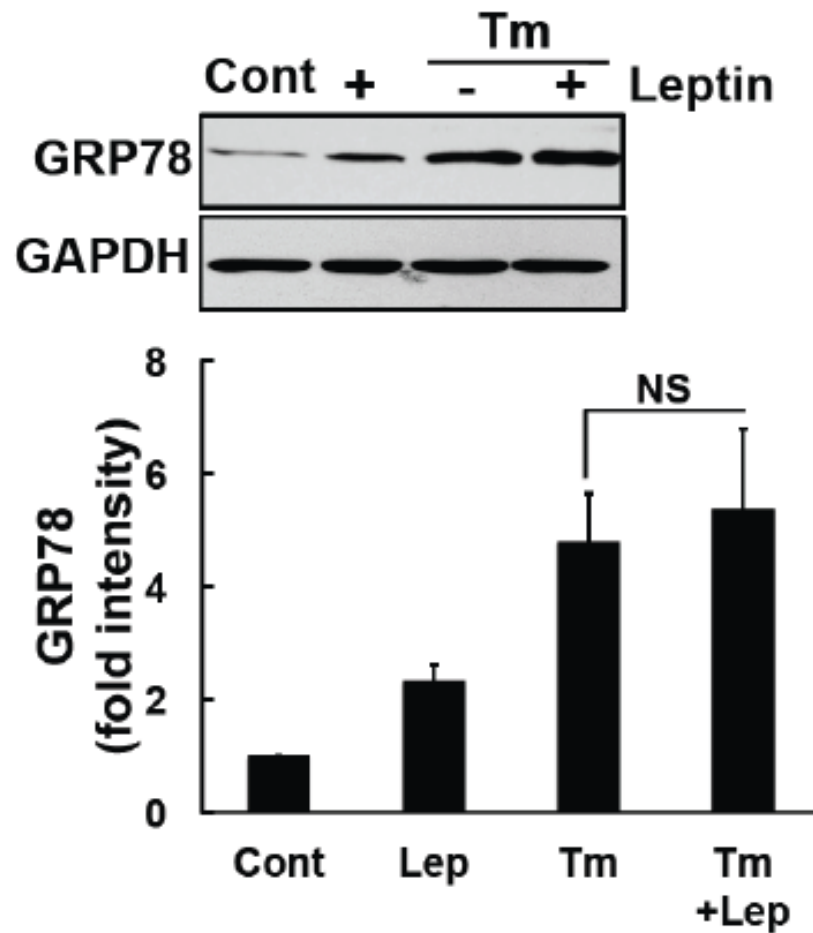
Supplementary Figure 2. Leptin increased the phosphorylation of eIF2 α . SH-SY5Y-ObRb cells were treated with leptin (0.5 μ g/ml) for 4 h. Densitometric analysis of p-eIF2 α levels using image analyzing software. Data are expressed as the mean \pm S.E. of 4 independent experiments (n = 4). * $P < 0.05$.

Supplementary Figure 3.



Supplementary Figure 3. Rapamycin inhibited leptin signal in SH-SY5Y-ObRb cells. SH-SY5Y-ObRb cells were pretreated with rapamycin (10 nM) for 24 h followed by leptin (0.5 μ g/ml, 30 min). Western blotting analysis was performed using specific antibodies for phospho-STAT3 (Tyr705) and STAT3. Densitometric analysis of phospho-STAT3 (Tyr705) levels using image analyzing software. The leptin-induced phosphorylation of STAT3 was inhibited by rapamycin. Data are expressed as the mean \pm S.E. of 4 independent experiments (n = 4). * $P < 0.05$.

Supplementary Figure 4.



Supplementary Figure 4. GRP78 levels would not be increased in ER stressed model. SH-SY5Y-ObRb cells were pretreated with Tm (0.05 $\mu\text{g/ml}$) for 4 h followed by leptin (0.5 $\mu\text{g/ml}$, 24 h). Western blotting analysis was performed using antibodies for GRP78 and GAPDH. Densitometric analysis of GRP78 using image analyzing software. Data are expressed as the mean \pm S.E. of 3 independent experiments (n = 3).