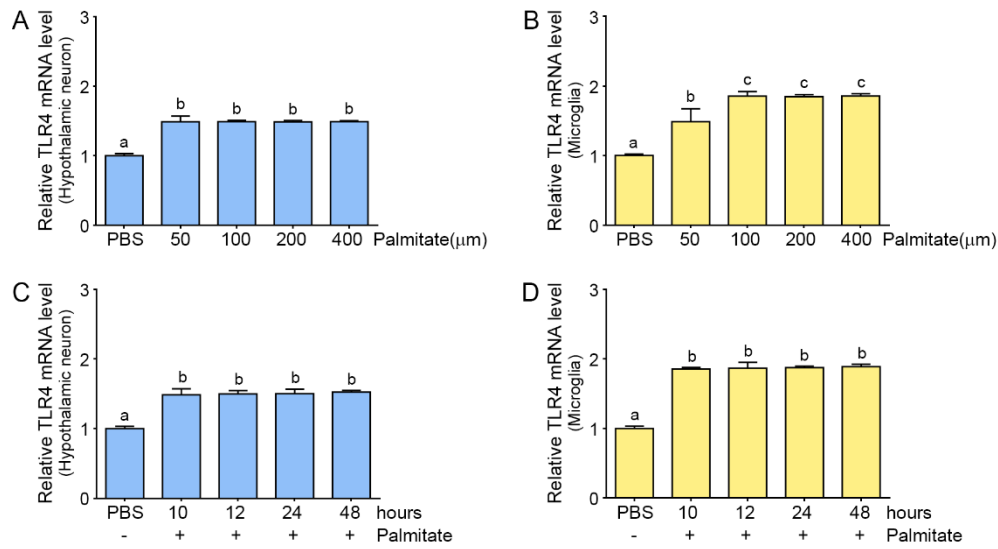


## Supplementary material



**Figure S1. Concentration and duration of palmitate causing ER stress in hypothalamic neurons and microglia** TLR4 was confirmed to determine the concentration of palmitate, which causes ER stress due to palmitate. (A) In hypothalamic neurons, TLR4 mRNA level increased to a maximum value at 50  $\mu$ M palmitate. (B) In microglia, TLR4 expression increased to a maximum value at 100  $\mu$ M palmitate. (C, D) TLR4 expression began to increase 10 h after the initiation of treatment with palmitate (50  $\mu$ M in hypothalamic neurons and 100  $\mu$ M in microglia). Data are means  $\pm$  SD. Same letters represent no significant difference ( $p \geq 0.05$ ). ER, endoplasmic reticulum; TLR4, Toll-like receptor 4; PBS, phosphate-buffered saline.

**Table S1. List of primer for quantitative real time polymerase chain reaction (qRT-PCR)**

Gene name		Primer sequence
<i>β-actin</i>	Forward	5'-ACA AAG CTG TTC AGT GTC TCC A-3'
	Reverse	5'-CTC CGT TTC CAG AAT ACA CAC A-3'
<i>TLR4</i>	Forward	5'-ATT CAG AGC CGT TGG TGT ATC T-3'
	Reverse	5'-TCA AGG ACA ATG AAG ATG ATG C-3'
<i>NF-κB</i>	Forward	5'-AGA AAT CCT ACC CAC AGG TCA A-3'
	Reverse	5'-CAT TTG TGA CCA ACT GAA CGA T-3'
<i>PERK</i>	Forward	5'-CAT CAG CAC TTT AGA TGG ACG A-3'
	Reverse	5'-AGA TGA AAC CAA GGA ACC AGA C-3'
<i>eIF2α</i>	Forward	5'-GAA GTG CCT AGT GAG GAG CCT A-3'
	Reverse	5'-CTC TTC ATG CAG TTT GGA ATT G-3'
<i>IRE1</i>	Forward	5'-ATC TGA AAA GGT TCC GCT CAT A-3'
	Reverse	5'-TAG TGG TGC TTC TTG TTC CTC A-3'
<i>Xbp1</i>	Forward	5'-TTG AGG AAG CAC CTC TAA GCT C-3'
	Reverse	5'-GGA TGA AGT CAT CTT CCA AAG G-3'
<i>SOCS3</i>	Forward	5'-ATGGTCACCCACAGCAAGTTT-3'
	Reverse	5'-TCCAGTAGAATCCGCTCTCCT-3'
<i>STAT3</i>	Forward	5'-AGA AAA TGA AGG TGG TGG AGA A-3'
	Reverse	5'-ATT CAG ATC CTG CAT GTC TCC T-3'
<i>ObR</i>	Forward	5'-TGG GCT ACA TCA GGC TTT GAG-3'
	Reverse	5'-CTC TCC TAC AAC CTT CCC CTC-3'