

Mahanine drives pancreatic adenocarcinoma cells into endoplasmic reticular stress-mediated apoptosis through modulating sialylation process and Ca²⁺-signaling

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Fig S1

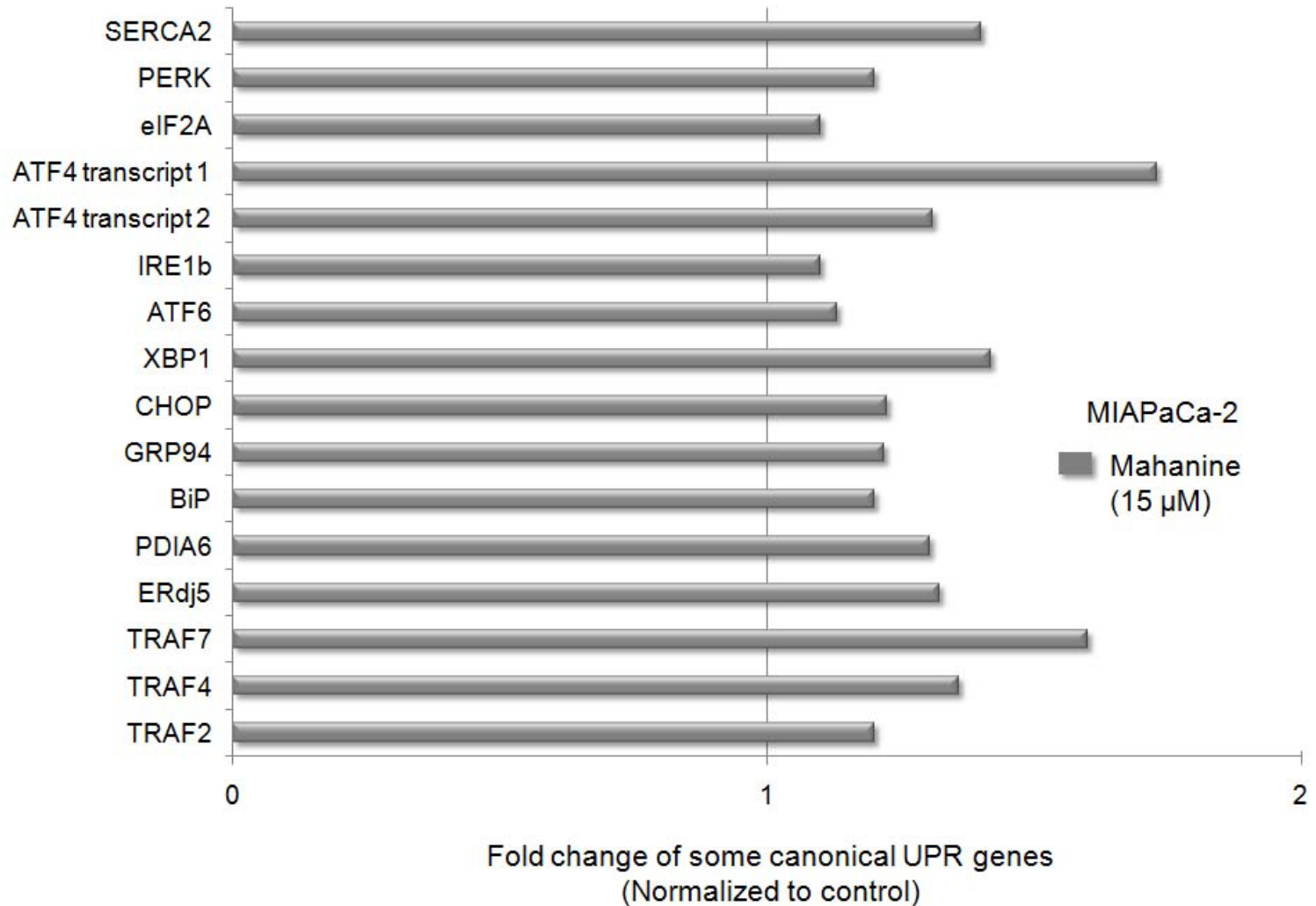


Figure S1. Mahanine initiates unfolded protein response in pancreatic carcinoma cells. Fold changes in most of the UPR genes in mahanine-treated (15 μM, 18 h) MIAPaCa-2 cells demonstrated in microarray analysis as describe in material methods. One-way ANOVA was used to analyze the data.

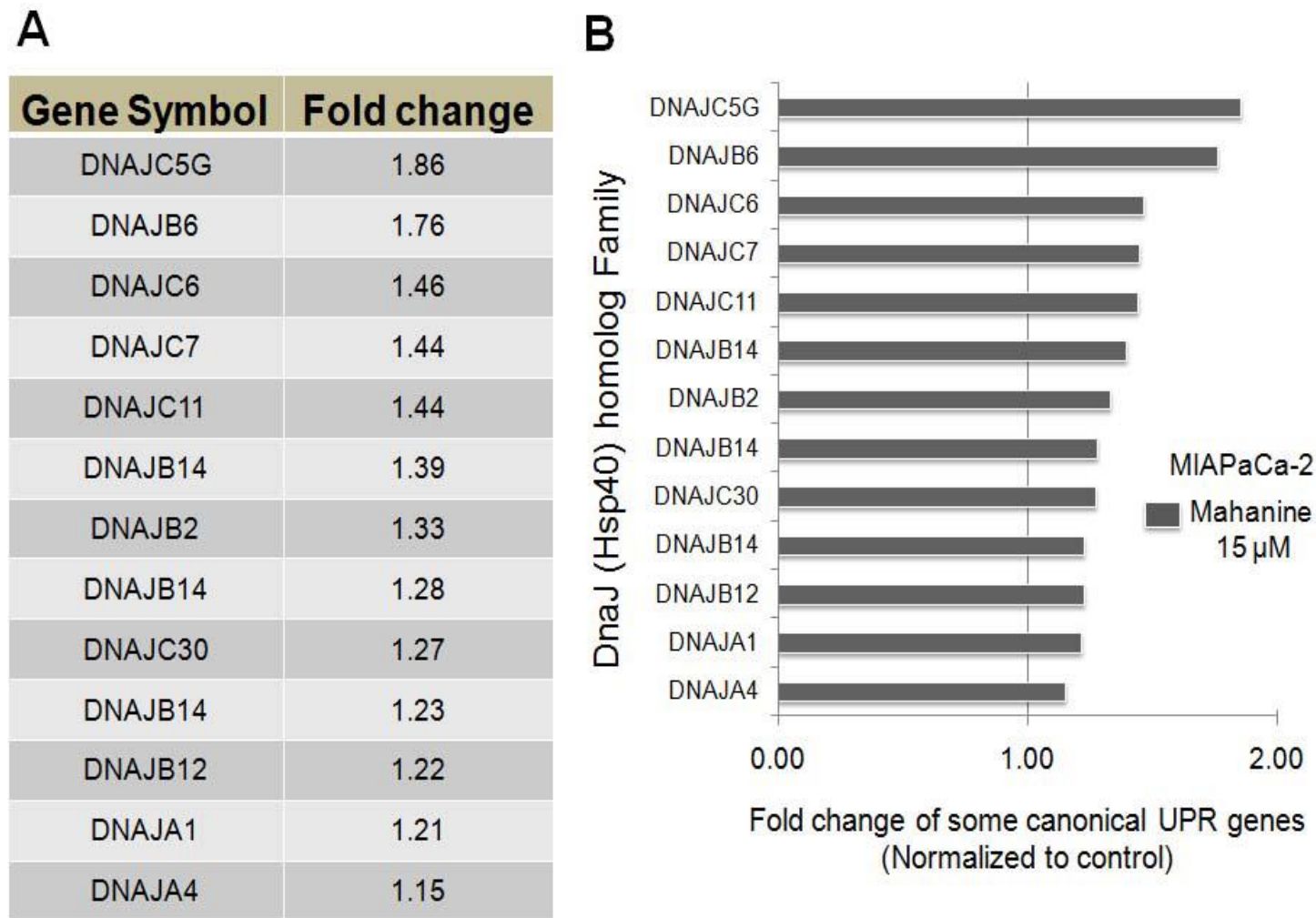
Fig S2

Figure S2. Mahanine mediated augmentation of DnaJ or Hsp40 super family gene transcripts in MIAPaCa-2 cells. Tabular (A) and graphical (B) representation of few significantly changed DnaJ transcripts from the microarray data analysis in mahanine-treated (15 μ M, 18 hr) MIAPaCa2 cells in compare to control as describe in material methods.

Fig S3

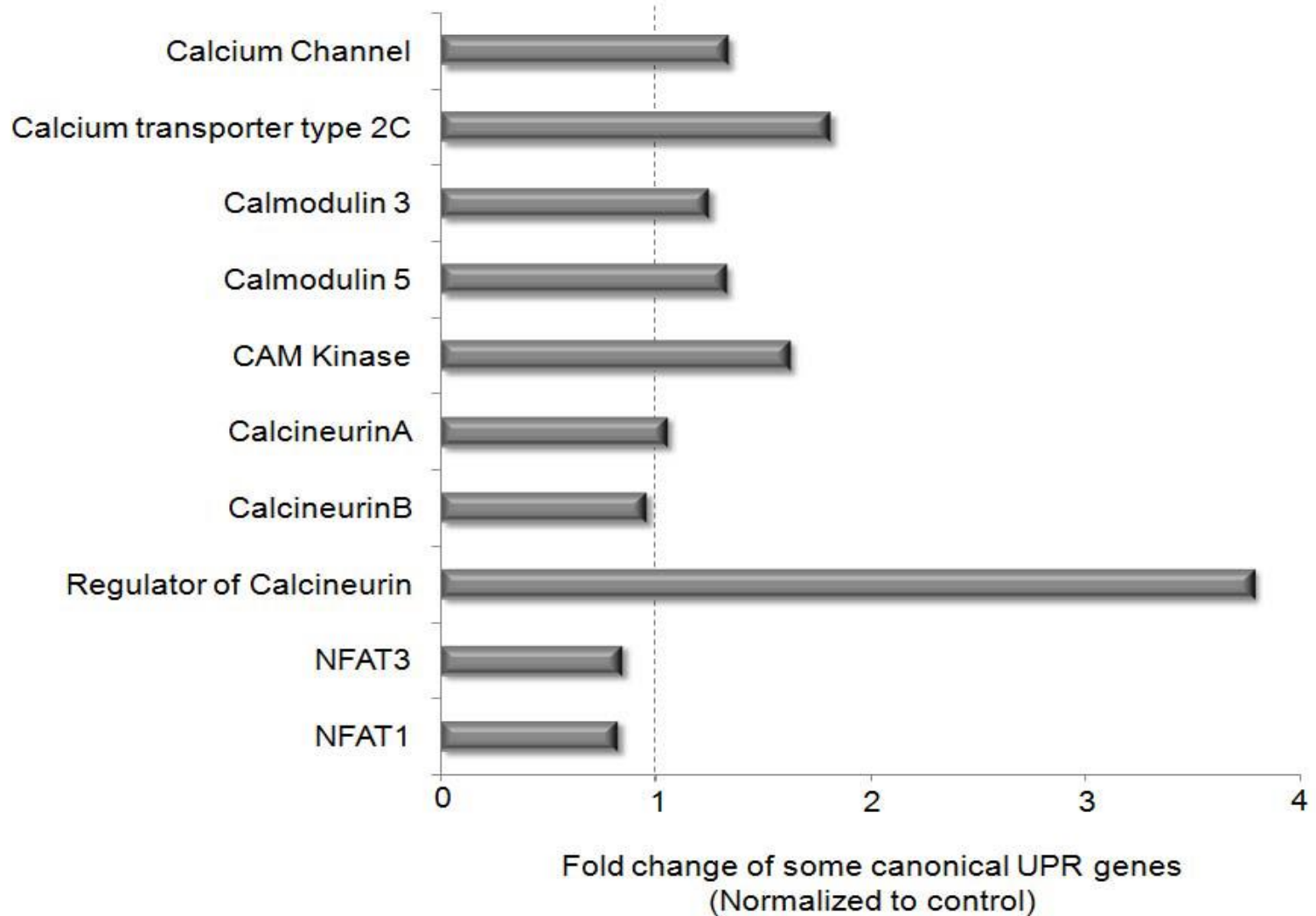


Figure S3. Mahanine induced upregulation of gene transcripts involved in Ca^{2+} signalling. Data represented as fold change in genes expression from the microarray analysis in mahanine-treated ($15 \mu\text{M}$, 18 hr) MIAPaCa2 cells in comparison to control.

Fig S4

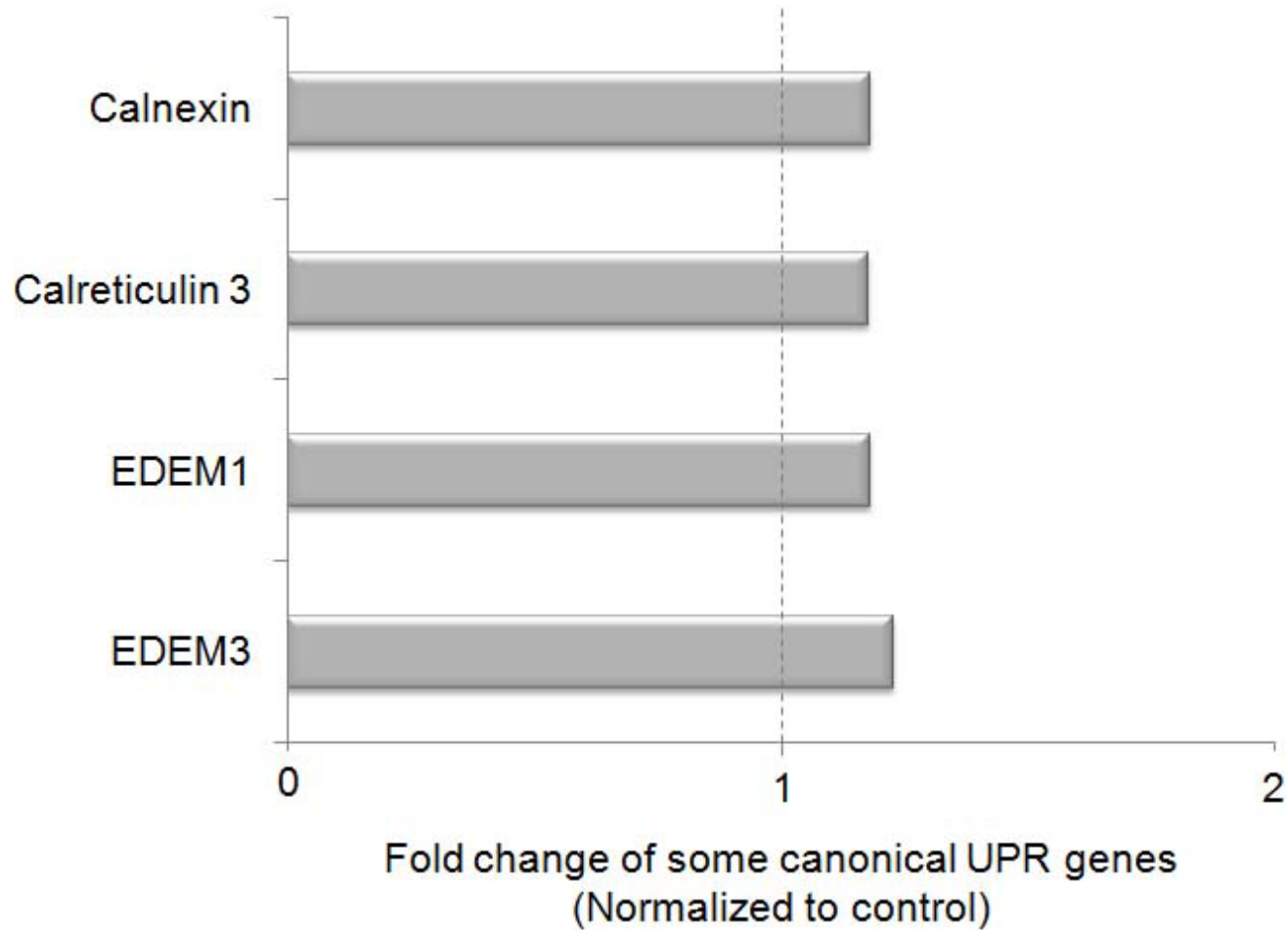


Figure S4. Microarray data of gene transcripts involved in Calnexin-Calreticulin chaperone cycle. Data represented as fold change in genes expression from the microarray analysis in mahanine-treated (15 μ M, 18 hr) MIAPaCa2 cells in comparison to control.

Fig S5

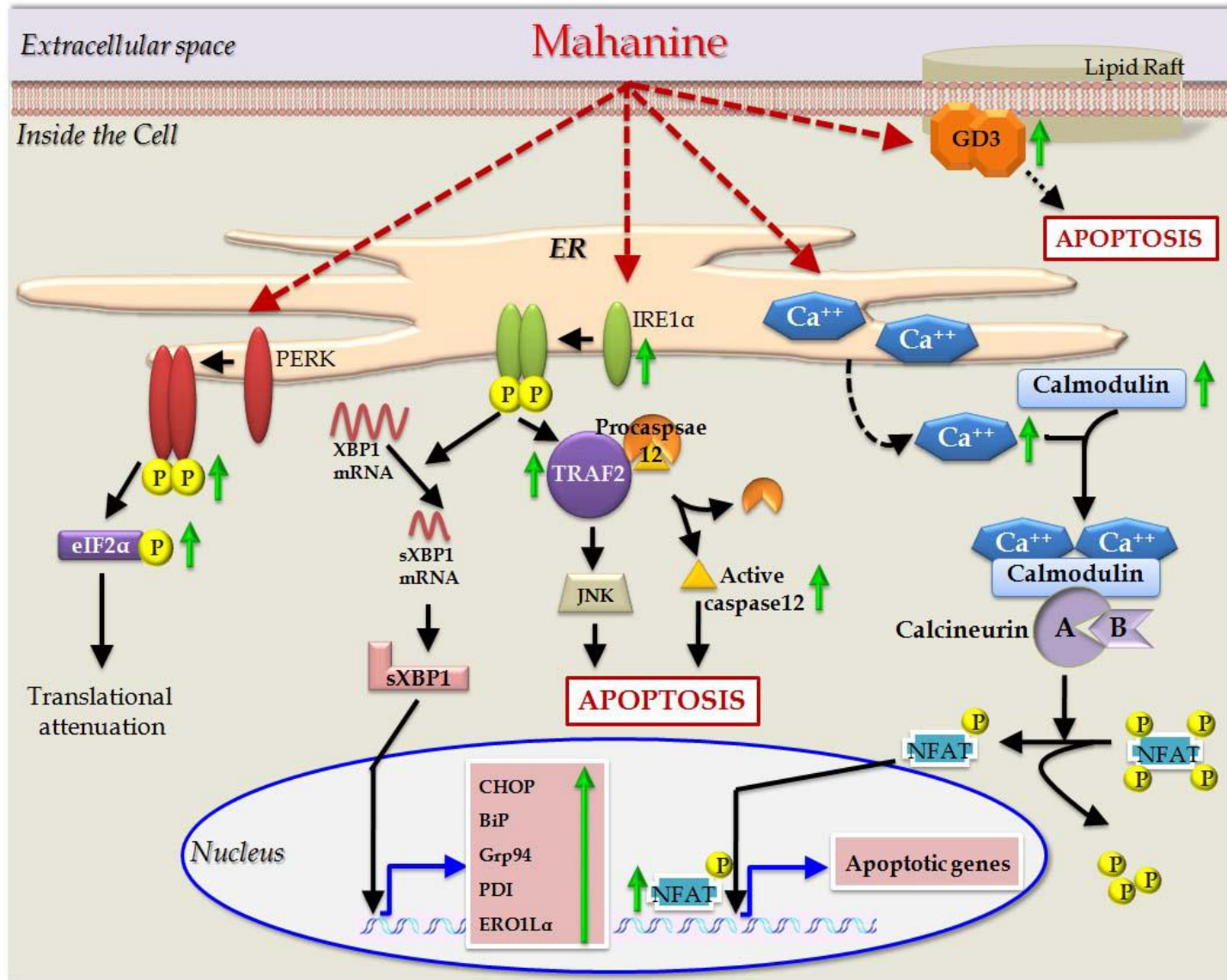


Figure S5. Schematic diagram of the summarized activity of mahanine on UPR activation and ER stress.

Table S1

Gene Symbol	Fold change
<i>SEC23A</i>	2.1
<i>ERP29</i>	1.55
<i>ST8SIA1</i>	1.52
<i>CREB3L4</i>	1.44
<i>CREB3L1</i>	1.4
<i>CREB3L2</i>	1.35
<i>SELS</i>	1.35
<i>COPA</i>	1.35
<i>HERPUD1</i>	1.34
<i>FKBP7</i>	1.34
<i>ERAP2</i>	1.34
<i>CREB3</i>	1.32
<i>PDIA6</i>	1.31
<i>ST8SIA1</i>	1.27
<i>HSP90B1</i>	1.23
<i>EDEM3</i>	1.23
<i>CLGN</i>	1.22

Table 1: Changes in expression levels of a few genes in the classic UPR pathway