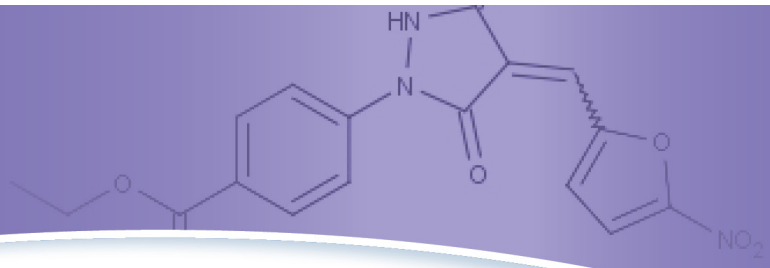
FOCUS on...



ER STRESS

The endoplasmic reticulum (ER) is tasked with the productive folding of secretory and transmembrane proteins along with the regulation of ER homeostasis. These processes involve several highly coordinated activities which include chaperoning, folding, quality control, and degradation mechanisms among others. Nascent proteins enter the ER where they undergo a process which, if successful, results in correct folding and exiting the ER followed by migration to their final destination via the secretory pathway. However if folding fails, misfolded proteins are retained in the ER. When the misfolded protein burden becomes overwhelming, the condition results in ER stress. The cell has evolved to adapt to ER stress by engaging the unfolded protein response (UPR) pathway whose function is to restore protein homeostasis in the ER. If it fails, the UPR will trigger signals to kill the cell via apoptosis. UPR can have a profound effect on normal and pathophysiology. Thus, agents which target UPR may lead to new therapeutics.

Applications:

- Cellular probes
- Cellular signaling
- Inhibitor development
- Drug discovery
- Analytical standard
- Chemical genomics
- Target validation
- Basic research

Contact us for:

- Product lists
- Price quotes
- Custom synthesis
- Discuss a project
- Technical support

Brefeldin A
ER stress inducer. A specific inhibitor of protein translocation from ER to Golgi.
10-1071 5 mg / $30.00, 25 mg / $90.00

Thapsigargin
ER stress inducer. Potent inhibitor of sarcoplasmic reticulum Ca^{2+} ATPase.
10-2105 1 mg / $58.00, 5 mg / $232.00

Tunicamycin
ER stress inducer. Inhibits GlucNAc phosphostransferase thereby inhibiting glycoprotein biosynthesis.
10-2111 5 mg / $74.00, 25 mg / $296.00

4μ8C
ER stress inhibitor. IRE1 ribonuclease inhibitor.
10-1579 10 mg / $75.00, 50 mg / $300.00

TUDCA
A classic ER stress inhibitor. Reduces ER stress and adipose tissue inflammation in a mouse model of high fat diet-induced obesity.
10-2782 500 mg / $45.00, 1 g / $85.00

Salubrinal
ER stress inhibitor acting via eIF2α phosphatase inhibition.
10-4517 5 mg / $80.00, 25 mg / $275.00

Toyocamycin
UPR inhibitor. Potently inhibits ER stress-induced XBP1 mRNA splicing. Induces apoptosis in pancreatic cancer cells.
10-2750 5 mg / $70.00, 25 mg / $250.00

Azoramide
UPR inhibitor. Improves ER protein folding and activates ER chaperone capacity to protect cells against ER stress. Displays potent antidiabetic activity by improving insulin sensitivity.
10-4629 10 mg / $50.00, 50 mg / $175.00

Borrelidin
UPR inducer. Threonyl-tRNA synthetase inhibitor. Inhibits angiogenesis.
10-1399 1 mg / $190.00, 5 mg / $760.00

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