

Instant induction

Pharmacological

calcium ionophores (ionomycin, thapsigargin, histamine) potassium ionophore (valinomycin) channel activator (NS1619)

hypotonic shock (0.1x PBS, paraformaldehyde) ER protein unfolding (Tunicamycin)

membrane permeabilization (digitonin/saponin) PXA fungal toxin BKA toxin

Physical force

FRAP & ablation micro-needle
bacterial collisions (Stavru et al., PNAS, 2013) force-controlled nanopipette (Gäbelein et al., 2022)
optical tweezers fluid force

Increased frequency

Genetic

DRP1-ko
MIC10,12,19,60-ko
TAZ1-ko

Dyes

flipper-TR & TMRE dye

Inhibitors

rotenone & antimycin A
cyclosporinA

Physiological

aging, Alzheimer's, and hypoxia (Zhang et al., 2016)

**mitochondrial
pearling**

Inhibition

Hypertonic shock (10x PBS, complete inhibition)
Depolarization (FCCP, complete inhibition), Cholesterol depletion (atorvastatin),
Microtubule depolymerization (nocodazole, partial inhibition), Actin inhibitors (latrunculin B, taxol, pearl recovery)
Oligomycin (pearl recovery)