

Instant induction

Pharmacological

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

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

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

Physical force

FRAP & ablation micro-needle

bacterial collisions force-controlled nanopipette
(Stavru et al., PNAS, 2013) (Gäbelein et al., 2022)

optical tweezers fluid force

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)

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