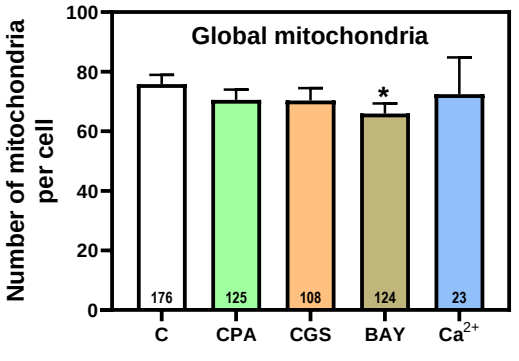
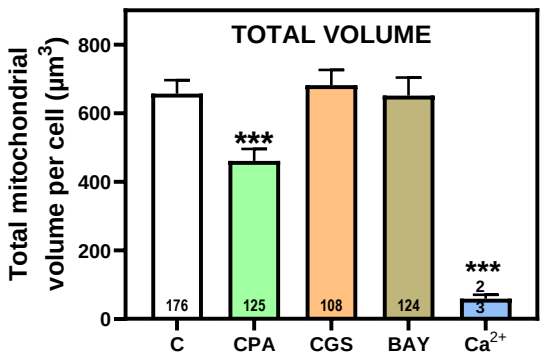
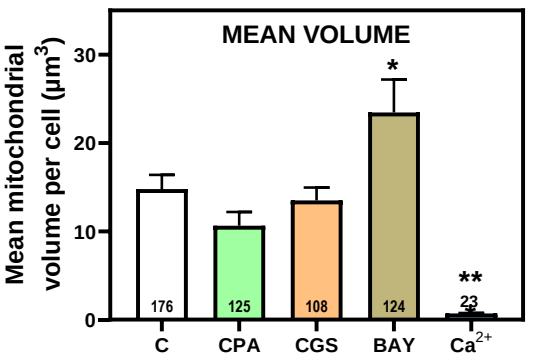
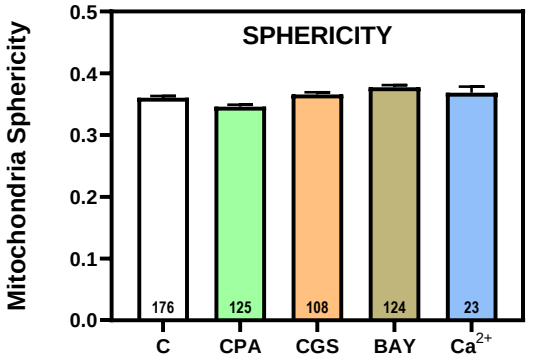
Figure S1. 3D morphological analysis of global mitochondria from HeLa cells. HeLa cells were exposed for 24 h to 10 µM CPA, 10 µM CGS 21680, 10 µM BAY 60-6583, and 10 µM Ca^{2+} and the corresponding morphological parameters of the global mitochondria (individual mitochondria and mitochondrial network) compared to control cells. Data are means ± SEM of n values (indicated within each graph bar). * $p < 0.05$, ** $p < 0.01$ and *** $p < 0.001$ significantly different according to the Student t-test.

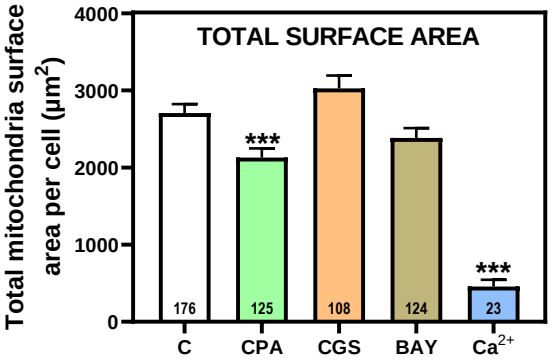
Video S1. Mitochondria staining in HeLa cells. Control HeLa cells were exposed to Mitotracker Green FM to stain mitochondria and time-lapse was recorded with a 63x immersion oil objective for 4 minutes. Cells were grown in a microchamber (PeCon) to maintain a humidified atmosphere with 5% CO_2 at 37°C. The scale bar and relative time are included in the video.

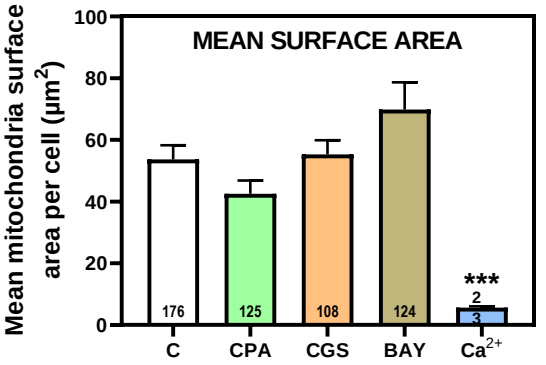

Global mitochondria
Number of mitochondria per cell
100
80
60
40
20
0
*
176
125
108
124
23
C
CPA
CGS
BAY
Ca2+

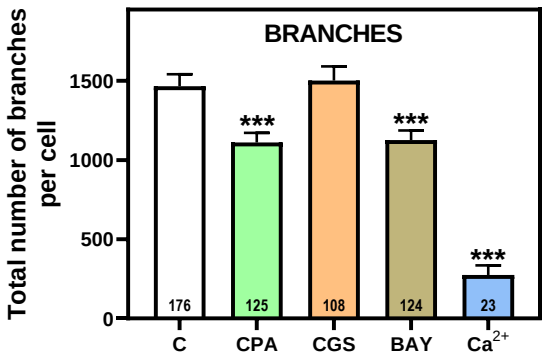

TOTAL VOLUME
Total mitochondrial volume per cell (µm3)
800
600
400
200
0
***
***
2
3
176
125
108
124
C
CPA
CGS
BAY
Ca2+

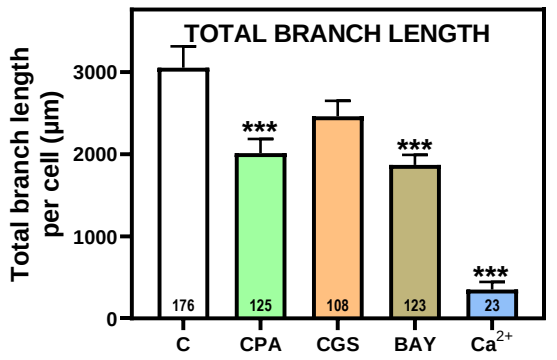

MEAN VOLUME
Mean mitochondrial volume per cell (µm3)
30
20
10
0
*
**
23
176
125
108
124
C
CPA
CGS
BAY
Ca2+

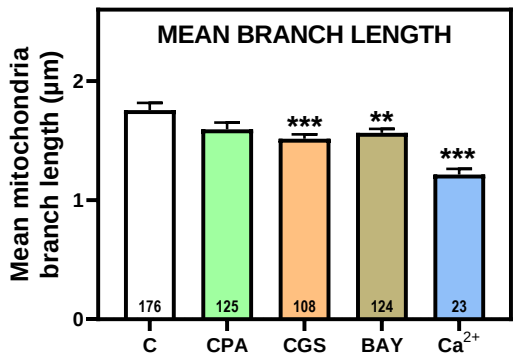

SPHERICITY
Mitochondria Sphericity
0.5
0.4
0.3
0.2
0.1
0.0
176
125
108
124
23
C
CPA
CGS
BAY
Ca2+

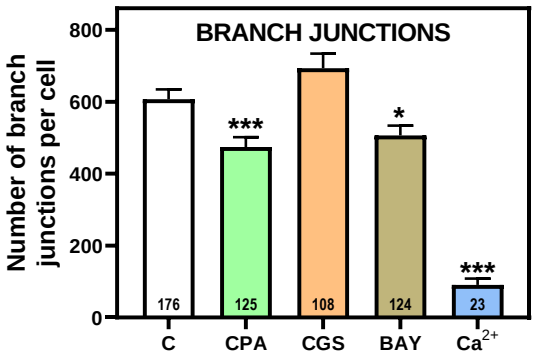

TOTAL SURFACE AREA
Total mitochondria surface area per cell (µm2)
4000
3000
2000
1000
0
***
***
176
125
108
124
23
C
CPA
CGS
BAY
Ca2+

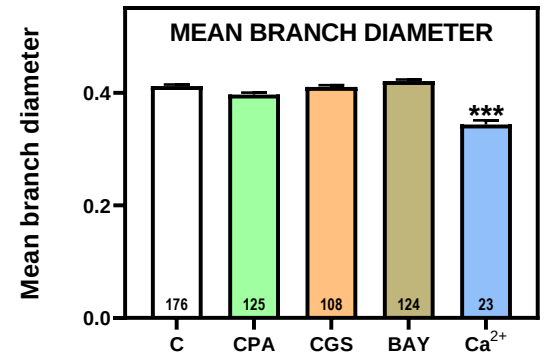

MEAN SURFACE AREA
Mean mitochondria surface area per cell (µm2)
100
80
60
40
20
0
***
2
3
176
125
108
124
C
CPA
CGS
BAY
Ca2+

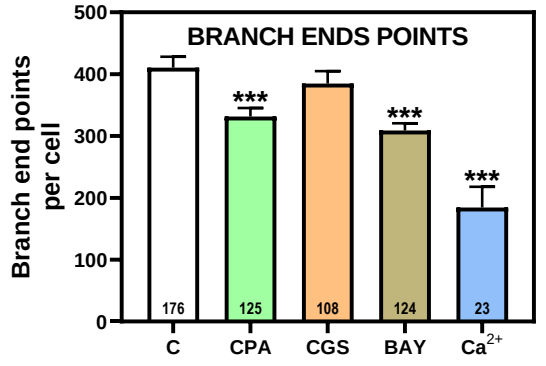

BRANCHES
Total number of branches per cell
1500
1000
500
0
***
***
***
176
125
108
124
23
C
CPA
CGS
BAY
Ca2+

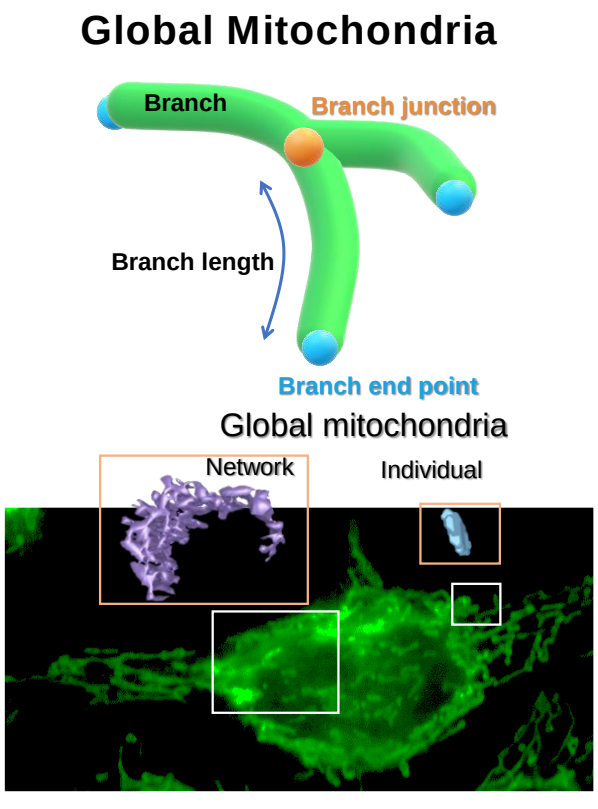

TOTAL BRANCH LENGTH
Total branch length per cell (µm)
3000
2000
1000
0
***
***
***
176
125
108
123
23
C
CPA
CGS
BAY
Ca2+

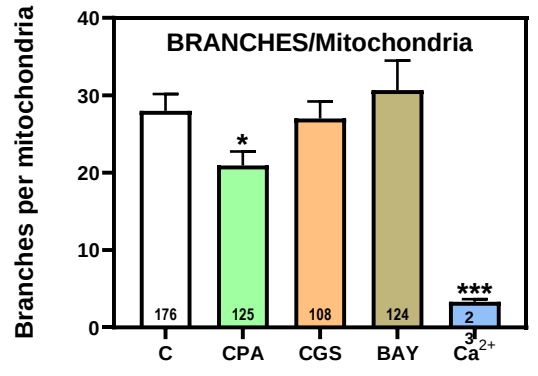

MEAN BRANCH LENGTH
Mean mitochondria branch length (µm)
2
1
0
**
***
***
176
125
108
124
23
C
CPA
CGS
BAY
Ca2+

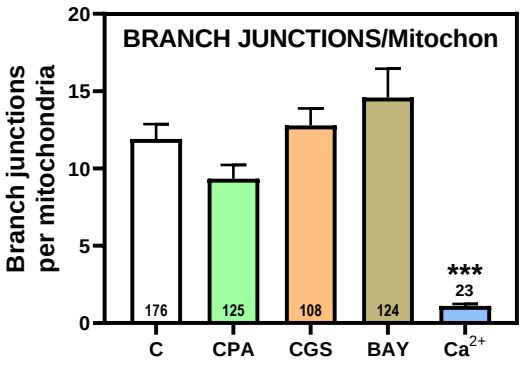

BRANCH JUNCTIONS
Number of branch junctions per cell
800
600
400
200
0
***
*
***
176
125
108
124
23
C
CPA
CGS
BAY
Ca2+

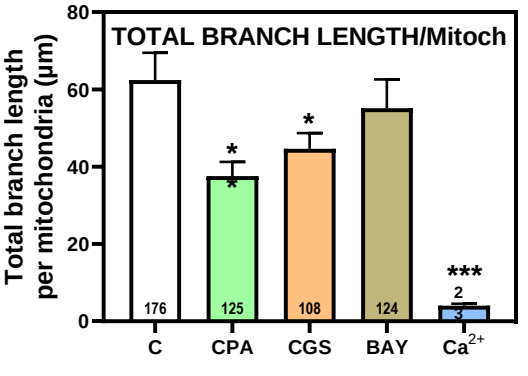

MEAN BRANCH DIAMETER
Mean branch diameter
0.4
0.2
0.0
***
176
125
108
124
23
C
CPA
CGS
BAY
Ca2+

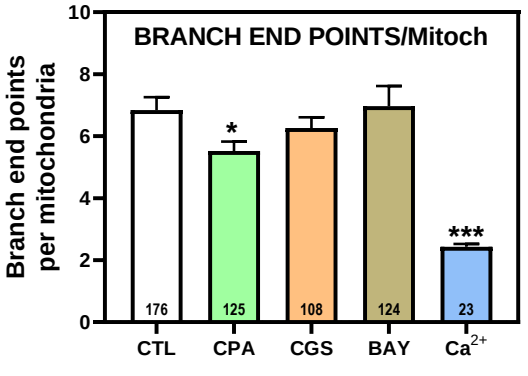

BRANCH ENDS POINTS
Branch end points per cell
500
400
300
200
100
0
***
***
***
176
125
108
124
23
C
CPA
CGS
BAY
Ca2+


Global Mitochondria
Branch
Branch junction
Branch length
Branch end point
Global mitochondria
Network
Individual


BRANCHES/Mitochondria
Branches per mitochondria
40
30
20
10
0
*
***
2
3
176
125
108
124
C
CPA
CGS
BAY
Ca2+


BRANCH JUNCTIONS/Mitochon
Branch junctions per mitochondria
20
15
10
5
0
***
23
176
125
108
124
C
CPA
CGS
BAY
Ca2+


TOTAL BRANCH LENGTH/Mitoch
Total branch length per mitochondria (µm)
80
60
40
20
0
*
*
*
***
2
3
176
125
108
124
C
CPA
CGS
BAY
Ca2+


BRANCH END POINTS/Mitoch
Branch end points per mitochondria
10
8
6
4
2
0
*
***
176
125
108
124
23
CTL
CPA
CGS
BAY
Ca2+