

Reagent or Resource	Source	Identifier
Plasmids		
<i>Fluorescent sensors</i>		
G-CEPIA2mt	Addgene	Cat# 58218
G-CEPIA3mt	Addgene	Cat# 58219
ER-GCamp6-210	Addgene	Cat# 86919
PercevalHR	Addgene	Cat# 49082
EGFP	Clontech	6085-1
SoNar	Gift from Dr. Yi Yang	
Syn-jGCaMP7	Addgene	Cat# 104489
Camk2-Ace-8aa-mScarlet	Addgene	Cat# 129702
mtKeima	Amalgaam	AM-V0251
Peredox-mCitrine	Addgene	Cat# 32386
Syn-DsRedExpress	Addgene	Cat#22907
DsRed2-Mito	Clontech	Cat# 632421
<i>Overexpression plasmids</i>		
CISD2 flag	Generated in our lab	
CISD2-YPet	Generated in our lab	
IP ₃ R1 Wt and D2550A	Gift from Dr. David Yule	
IP ₃ R1 active fragment	Plasmid ID	MmCD00312368
SERCA2b	Addgene	Cat# 75188
PDK1	Addgene	Cat# 111672
Miro1	Addgene	Cat#47888
PLN	Origene	RC202712
PDK1	Addgene	Cat#20564
PDP2	Sino Biological	158-HG24215-CF
WFS1 mRFP-N2 (891)	Addgene	Cat# 62018
WFS1 P724L	Addgene	Cat# 13012
WFS1 pEGFP	Addgene	Cat# 62051
WFS1-Flag	Addgene	Cat# 13011
WFS1 myc	Generated in our lab	
<i>shRNA-s</i>		
<i>Cisd2</i> shRNA	SABiosciences	KR47927N
<i>Cisd2</i> siRNA	Sigma-Aldrich	SASI_Rn02_00358487 XM_001077768
<i>IP₃R1</i> shRNA	SABiosciences	KR42677N
<i>IP₃R3</i> shRNA	SABiosciences	KR45319N
<i>RYR2</i> shRNA	Origene Technologies, USA	TR713964
<i>Wfs1</i> shRNA	SABiosciences	KR46208N
<i>Wfs1</i> siRNA	Sigma-Aldrich	SASI_Rn02_00265296 NM_031823
Cell Culture		
B-27™ Plus supplement	ThermoFisher Scientific	Cat# A3582801
B-27™ supplement	ThermoFisher Scientific	Cat#17504044
Basal Medium Eagle (BME)	ThermoFisher Scientific	Cat# 41010109
DMEM, high glucose, GlutaMAX™ Supplement, pyruvate	ThermoFisher Scientific	Cat#31966021
Lipofectamine® 2000	ThermoFisher Scientific	Cat# 11668019
Neurobasal™-A with or without fenol red	ThermoFisher Scientific	Cat# 10888022 or 12349015 (without fenol red)

N-TER Nanoparticle siRNA Transfection System	Sigma-Aldrich	Cat#N2913
Opti-MEM I Reduced Serum Medium	ThermoFisher Scientific	Cat# 11058021
Poly-L-lysine hydrobromide	Sigma-Aldrich	P6282
Chemicals		
(RS)-3,5-DHPG	Tocris	Cat# 0342
Azymolene sodium salt	Cayman Chemical	Cat# 16462
CDN1163	Tocris	Cat# 5869
CGP 37157	Tocris	Cat# 1114
Liraglutide	Tocris	Cat# 6517
Pyruvate dehydrogenase inhibitor (CPI-613)	Tocris	Cat#5348
RYR-Calstabin Interaction Stabilizer (RyCal) S107	Millipore, Sigma-Aldrich	Cat# 500469
FCCP	Tocris	Cat# 0453
JC-10 [Enhanced JC-1], Ultra Pure	Enzo	ENZ-52305
Antibodies		
Rabbit polyclonal anti-WFS1	Proteintech	11558-1-AP
Rabbit polyclonal anti-WFS1	ThermoFisher Scientific	PA5-76065
Rabbit polyclonal anti-CISD2	Origene	TA320192
Rabbit polyclonal anti-CISD2	Abclonal	A5231
Mouse monoclonal anti-RyR2 (C3-33)	ThermoFisher Scientific	MA3-916
Rabbit polyclonal anti-RyR2	Generated in our lab	
Mouse monoclonal anti- β -actin	Sigma-Aldrich	A228-200UL
Mouse anti-FLAG (Clone M2)	Sigma-Aldrich	F1804
Rabbit anti-FLAG	Sigma-Aldrich	F7425
Mouse anti-MYC	ThermoFisher Scientific	R950-25
Rabbit anti-MYC	Abcam	ab9106
Mouse anti-GFP	Roche	11814460001
Donkey anti-mouse MINUS 100	Olink Bioscience	92004-0100
Donkey anti-rabbit PLUS 100	Olink Bioscience	92002-0100
Goat anti-mouse IRDye 680LT	LI-COR Biosciences	926-68020
Goat anti-mouse IRDye 800CW	LI-COR Biosciences	925-32210
Goat anti-rabbit IRDye 800CW	LI-COR Biosciences	926-32211
Goat anti-rabbit IRDye 680LT	LI-COR Biosciences	926-68021
Other		
Duolink In Situ (Proximity Ligation Assay)	Olink Bioscience	92002-0100 92004-0100 92008-0100
GFP-Trap Agarose for Immunoprecipitation of GFP-Fusion Proteins from mammalian cell extract	Chromotek	gta-20
Odyssey blocking buffer	LI-COR Bioscience	927-40000
DC™ Protein Assay Reagent A, B, S	Bio-Rad	Cat#500-0113; Cat#500-0114; Cat#500-0115

Table 2. List of the reagents and resources.