Primary Antibodies					
Antibody	**Host**	**Company**	**Catalog #**	**WB Dilution**	**IF Dilution / Notes**
Akt	Rabbit	Cell Signaling Tech (CST)	#4685	1:1000	
Beclin1	Rabbit	CST	#3495	1:1000	
CNA35-Alexa555	Recombinant	Homemade	Rogeman1-005-EXP058		2.14 mg/ml
Collagen I	Rabbit	Abcam	ab34710		1:200
DAPI	—	Sigma	D9542		1 µg/ml
FOXO1	Rabbit	CST	#2880S	1:1000	
GAPDH	Rabbit	CST	#5174	1:1000	
GFP	Chicken	Abcam	ab13970	1:500	1:500
GPNMB	Goat	R&D Systems	AF2330	1:500	
Hoechst	—	Thermo Fisher	33342		1 µg/ml
LC3A/B (hMSC)	Rabbit	CST	#12741 (D3U4C)	1:200	1:200
LC3B (MLBC)	Rabbit	Sigma	L7543	1:200	1:200
Lamtor1	Rabbit	Thermo Fisher	PA5-23086	1:1000	
Lamtor4	Rabbit	CST	D4P6O (#13140)	1:1000	
NQO1	Rabbit	Abcam	ab80588	1:1000	
S6rp	Rabbit	CST	#2217	1:1000	
Scx	Rabbit	Thermo Fisher	PA5-115874	1:500	1:200
Sox9	Rabbit	Abcam	ab185966	1:500	1:500
TFE3	Mouse	Sigma	AMAb91799		1:100
TFEB (hMSC)	Rabbit	CST	#4240	1:200	1:200
TFEB (MLBC)	Mouse	CST	#91767 (E4I8R)	1:200	1:200
TNC	Rabbit	Atlas Antibodies	HPA004823	1:1000	
Tnmd	Rabbit	Sigma	SAB21024197	1:500	
eIF2	Rabbit	CST	#2332	1:1000	
p-4EBP1 (S65)	Rabbit	CST	#9456	1:1000	
p-Akt (S473)	Rabbit	CST	#4060	1:1000	
p-EF2 (T56)	Rabbit	CST	#2331	1:1000	
p-S6rp	Rabbit	CST	#4060	1:1000	1:1000
p-Smad2	Rabbit	CST	#3108	1:1000	
p-TFEB (Ser122) (hMSC)	Rabbit	CST	E9S8N	1:1000	
p-TFEB (Ser122) (MLBC)	Mouse	CST	#87932S	1:1000	
p-eIF4B (S422)	Rabbit	CST	#3591	1:1000	
p62	Rabbit	CST	#23214	1:1000	1:1000

Secondary Antibodies					
Antibody	**Target Host**	**Conjugate**	**Company**	**Catalog #**	**Dilution**
Anti-Mouse IgG-HRP (hMSC)	Mouse	HRP	GE Healthcare	NA931 V	1:5000–1:10000
Anti-Mouse IgM-HRP (MLBC)	Mouse (IgM)	HRP	Jackson ImmunoResearch	115-035-075	Not specified
Anti-Rabbit IgG-HRP (hMSC)	Rabbit	HRP	GE Healthcare	NA934 V	1:5000–1:10000
Anti-Rabbit IgG, HRP-linked (MLBC)	Rabbit	HRP	Cell Signaling Tech (CST)	7074	1:1000–1:10000
Anti-Chicken IgY-HRP	Chicken	HRP	Abcam	ab6753-1500	1:5000–1:10000
Donkey anti-Goat IgG (H+L), HRP	Goat	HRP	Thermo Fisher Scientific	A15999	1:5000–1:10000
Anti-Mouse IgG Alexa Fluor 488	Mouse	Alexa Fluor 488	Invitrogen	A21202	1:1000
Anti-Rabbit IgG Alexa Fluor 546	Rabbit	Alexa Fluor 546	Invitrogen	A11010	1:500
Anti-Chicken IgY	Goat	Alexa Fluor 488 (green)	Jackson ImmunoResearch	703-546-155	—
Phalloidin (F-actin)	—	Alexa Fluor 594 (red)	Thermo Fisher Scientific	A12381	0.076388889

Fluopack Probes

Marker	Description	Category	Application	final concentration (M)
Acridine Orange	Nucleic acid stain; differentiates DNA (green) and RNA (red).	pH, ROS and mitochondrial membrane potential	Mitochondrial membrane potential probe	2.12E-06
BODIPY 493	Lipid droplet stain; green fluorescence.	Lipid metabolism and trafficking	Neutral lipids	5.00E-06
BODIPY 505	Neutral lipid stain; used for lipid droplet imaging.	Lipid metabolism and trafficking	Neutral lipids	5.00E-06
BODIPY FL C12	Fatty acid analog; tracks lipid metabolism.	Lipid metabolism and trafficking	Fatty acyls	1.00E-06
BODIPY FL C12-Sphingomyelin	Sphingolipid analog; membrane studies.	Lipid metabolism and trafficking	Sphingolipids	5.00E-06
BODIPY FL C16	Long-chain fatty acid analog.	Lipid metabolism and trafficking	Fatty acyls	1.00E-06
BODIPY FL C5	Short-chain fatty acid analog.	Lipid metabolism and trafficking	Fatty acyls	1.00E-06
BODIPY FL C5 Ganglioside GM1	Labels lipid rafts.	Lipid metabolism and trafficking	Sphingolipids	4.75E-07
BODIPY FL C5 Sphingomyelin	Sphingolipid analog for membrane tracking.	Lipid metabolism and trafficking	Sphingolipids	5.00E-06
BODIPY FL Vancomycin	Antibiotic conjugate; bacterial cell wall labeling.	Drug conjugate	Vancomycin conjugate, gram positive bacteria staining	5.80E-07
BODIPY FL Vinblastine	Microtubule-binding drug conjugate.	Drug conjugate	Vinblastine conjugate, tubulin staining	2.00E-06
CellEvent Caspase Green	Apoptosis marker; detects caspase-3/7 activity.	Cell death	Caspase activated DNA staining	2.00E-06
CellROX Green	Reactive oxygen species	pH, ROS and mitochondrial membrane potential	ROS activated DNA staining	2.50E-06

	(ROS) indicator.			
Cholesteryl BODIPY FL C12	Cholesterol analog; lipid trafficking.	Lipid metabolism and trafficking	Sterol lipids	5.00E-06
ER Tracker Blue-White	Labels endoplasmic reticulum (ER).	Organelle staining and cell morphology	ER staining	1.00E-06
ER Tracker Green	ER-specific fluorescent dye.	Organelle staining and cell morphology	ER staining	1.00E-06
Fluo-3 AM	Calcium indicator.	Ion concentration	Calcium probe	5.00E-06
Fluo-4 AM	High-sensitivity calcium indicator.	Ion concentration	Calcium probe	5.00E-06
Fluo-4FF AM	Low-affinity calcium indicator.	Ion concentration	Calcium probe	5.00E-06
FluoZin-3 AM	High-affinity zinc indicator.	Ion concentration	Zinc probe	5.00E-06
Fluorescein DHPE	Phospholipid analog; membrane labeling.	Lipid metabolism and trafficking	Glycerophospholipids	5.00E-06
Fluorescein Methotrexate	Drug conjugate; antifolate transport studies.	Drug conjugate	Methotrexate tracking, DHFR expression	2.00E-06
HCS LipidTox Green	Lipid droplet stain.	Lipid metabolism and trafficking	Neutral lipids	5.00E-06
Image-iT DEAD Green	Dead cell stain; impermeant to live cells.	Cell death	Viability stain impermeant to healthy cells	1.00E-07
LysoTracker Green	Labels acidic organelles like lysosomes.	Organelle staining and cell morphology	Lysosome staining	2.00E-08
Mag-Fluo-4 AM	Magnesium-sensitive dye.	Ion concentration	Magnesium/calcium probe	5.00E-06
Magnesium Green AM	Mg^{2+} indicator.	Ion concentration	Magnesium probe	5.00E-06
MitoTracker Green	Mitochondria-specific dye.	Organelle staining and cell morphology	Mitochondria staining	2.00E-08
NBD C6-Ceramide	Golgi and membrane label; sphingolipid analog.	Lipid metabolism and trafficking	Sphingolipids	5.00E-06

NBD Cholesterol	Fluorescent cholesterol analog.	Lipid metabolism and trafficking	Sterol lipids	5.00E-06
NBD-PE	Phosphatidyl ethanolamine analog.	Lipid metabolism and trafficking	Glycerophospholipids	5.00E-06
Newport Green DCF Diacetate	Zinc indicator.	Ion concentration	Zinc probe	5.00E-06
Oregon Green BAPTA-1	Calcium indicator.	Ion concentration	Calcium probe	5.00E-06
Oregon Green DHPE	Phospholipid analog.	Lipid metabolism and trafficking	Glycerophospholipids	5.00E-06
Phen Green FL Diacetate	Transition metal indicator (Zn^{2+}, Cu^{2+}).	Ion concentration	Ions, broad range	2.00E-06
SNARF Acetate	Intracellular pH indicator.	pH, ROS and mitochondrial membrane potential	pH indicator	1.00E-05
Singlet Oxygen Sensor Green	Detects singlet oxygen ($^1O_2$).	pH, ROS and mitochondrial membrane potential	ROS	5.00E-06
Sodium Green	Sodium ion indicator.	Ion concentration	Sodium probe	1.00E-05
Sytox Green	Dead cell stain; nucleic acid binding.	Cell death	Cell impermeant nuclear stain, dead cell staining	1.00E-07
Tubulin Tracker Green	Microtubule marker.	Organelle staining and cell morphology	Tubulin staining	2.50E-07
pHrodo Green AM	pH-sensitive dye; increases fluorescence in acidic pH.	pH, ROS and mitochondrial membrane potential	pH indicator	5.00E-06
DMSO	Solvent control; non-fluorescent.			