

KEY RESOURCES TABLE

REAGENT or RESOURCE	SOURCE	IDENTIFIER
Antibodies		
anti-calnexin	Abcam	Cat# ab75801; RRID: AB_1310022
anti-cathepsin K	Proteintech	Cat# 11239-1-AP; RRID: AB_2245581
anti-collagen type I	Gentaur	Cat# OARA02579; RRID: AB_10873334
anti-COL1A1	Santa Cruz	Cat# sc-8784; RRID: AB_638601
anti-GAPDH (clone Gapdh71.1)	Merck	Cat# G8795; RRID: AB_1078991
anti-GM130 (clone EP892Y)	Abcam	Cat# ab52649; RRID: AB_880266
anti-GM130 (clone 35)	BD Biosciences	Cat# 610822; RRID: AB_398141
anti-HSP47 (clone E-4)	Santa Cruz	Cat# sc-398579; RRID: N/A
anti-PDE4D	Santa Cruz	Cat# sc-25100; RRID: AB_2283587
anti-PDIA2 (clone 1D3)	Abcam	Cat# ab190883; RRID: AB_2773043
anti-Sec61alpha	Santa Cruz	Cat# sc-12322; RRID: AB_2301616
anti-TANGO1	Santa Cruz	Cat# sc-366098; RRID: N/A
anti-vinculin (clone V284 or VLN01)	Oncogene	Cat# CP64; RRID: AB_2214490
anti-VPS33B (clone G-9)	Proteintech Europe	Cat# 12195-1-AP; RRID: AB_2215198
anti-mouse FITC-conjugated	Abcam	Cat# ab6785; RRID: AB_955241
anti-rabbit Cy5-conjugated	Thermo Fisher Scientific	Cat# A10523; RRID: AB_2534032
anti-goat HRP conjugated	Thermo Fisher Scientific	Cat# PA1-28664; RRID: AB_10990162
anti-mouse HRP-conjugated	Thermo Fisher Scientific	Cat# 32430; RRID: AB_1185566
anti-rabbit HRP-conjugated	Thermo Fisher Scientific	Cat# 32460; RRID: AB_1185567
Chemicals, Peptides, and Recombinant Proteins		
Alt-R CRISPR-Cas9 tracrRNA	Integrated DNA Technologies	Cat# 1072533
Alt-R CRISPR crRNA	Integrated DNA Technologies	Cat# CUSTOM
Alt-R S.p. Cas9 nuclease V3	Integrated DNA Technologies	Cat# 1081058
collagenase type 4	Worthington Biochemical Corporation	Cat# LS004182
dexamethasone	Merck	Cat# D4902; CAS 50-02-2

D-luciferin	Merck	Cat# L9504; CAS 2591-17-5
horse serum	Thermo Fisher Scientific	Cat# 26050088
L-[¹⁴ C(U)]-Proline	Perkin Elmer	Cat# NEC285E050UC
Lipofectamin RNAiMAX	Thermo Fisher Scientific	Cat# 133778-075
Novex 6% Tris-Glycine Mini Gels	Thermo Fisher Scientific	Cat# XP00065BOX
NuPAGE MOPS SDS Running Buffer	Thermo Fisher Scientific	Cat# NP0001
NuPAGE Novex 10% polyacrylamide Bis-Tris gels	Thermo Fisher Scientific	Cat# NP0302BOX
Pierce ECL Western Blotting Substrate	Thermo Fisher Scientific	Cat#32106
POROS R3 beads	Applied Biosystems	Cat#1-1339-03
odanacatib	Cambridge Bioscience Ltd.	Cat # 21466; CAS 603139-19-1
RQ1 RNase-Free DNase	Promega Corporation	Cat# M6101
SensiFAST SYBR No-ROX Kit	Bioline	Cat# BIO-98005
Skimmed milk powder	Merck	Cat# 1153630500, CAS 999999-99-4
TaqMan Reverse Transcription Reagents	Thermo Fisher Scientific	Cat# N8080234
TRIzol reagent	Thermo Fisher Scientific	Cat# 15596026
VECTASHIELD Hardset antifade mounting medium with DAPI	Vector Labs	Cat# H-1500
L-hydroxy-proline	Applichem	A1705,0025
Chloramine T	Sigma	23270-50G
Sodium acetate trihydrate	Sigma	71188-250G
Citric acid	Sigma	C0759-100G
Glacial acetic acid	Fisher Scientific	A/0400/PB17
Sodium hydroxide	Fisher Scientific	S/4920/53
4-dimethylamino-benzaldehyde	Sigma	109762-100G
Perchloric acid	BDH	10175
N-propanol	Sigma	24135-2.5L-R
Hydrochloric acid	Fisher Scientific	H/1200/PB15
SR9009	Cayman Chemical, Ann Harbor, USA	Item number 11929
KL001	Celbiochem	SML1032
Critical Commercial Assays		
Mouse Embryonic Fibroblast Starter Nucleofector Kit	Lonza	Cat# VPD-1006
Pierce BCA Protein Assay	Thermo Fisher Scientific	Cat# 23227
P1 Primary Cell 4D-Nucleofector Kit	Lonza	Cat# V4XP-1024
SMART Digest Trypsin Kit	Thermo Fisher Scientific	Cat#60109-101
Deposited Data		

Mouse tail tendon time-series microarray	ArrayExpress accession number E-MTAB-7743	Yeung et al., 2014; PMID: 24897937
Mouse tail tendon time-series proteomics	This paper	
Experimental Models: Organisms/Strains		
Mouse: wild type, C57BL/6	N/A	N/A
Mouse: <i>Bmal1 lox/lox</i>	The Jackson Laboratory	Stock# 7668; Storch <i>et al.</i> , 2007; PMID: 17719549
Mouse: <i>ClockΔ19</i>	Laboratory of Joseph Takahashi	Vitaterna <i>et al.</i> , 1994; PMID: 8171325
Mouse: <i>PER2::LUC</i>	Laboratory of Joseph Takahashi	Yoo <i>et al.</i> , 2004; PMID: 14963227
Mouse: <i>Scx-Cre</i>	Laboratory of Ronen Schweitzer	Blizt et al., 2009; PMID: 20059955
Oligonucleotides		
Alt-R CRISPR crRNA for KO of <i>Sec61a1</i> , <i>Sec61a2</i> , <i>Vps33b</i>	This paper	
GeneSolution siRNA for <i>Mia3</i>	Qiagen	Cat# 1027416
SMARTpool ON-TARGET plus siRNA for <i>Pde4d</i>	Dharmacon	Cat# L-043744
qPCR primers for <i>Col1a1</i> , <i>Ctsk</i> , <i>Gapdh</i> , <i>Mia3</i> , <i>Nr1d1</i> , <i>Pde4d</i> , <i>Sec61a1</i> , <i>Sec61a2</i> , <i>Vps33b</i>	This paper	
Software and Algorithms		
False Discovery Rate filtering		Bekker-Jensen et al., 2017; PMID: 28601559
MetaCycle		Wu et al., 2016; PMID: 27378304
Benjamini-Hochberg correction for false positives		Benjamin and Hochberg, 1995
Other		
Screw top tubes 1.5 mL	StarLab	Cat# E1415-2231