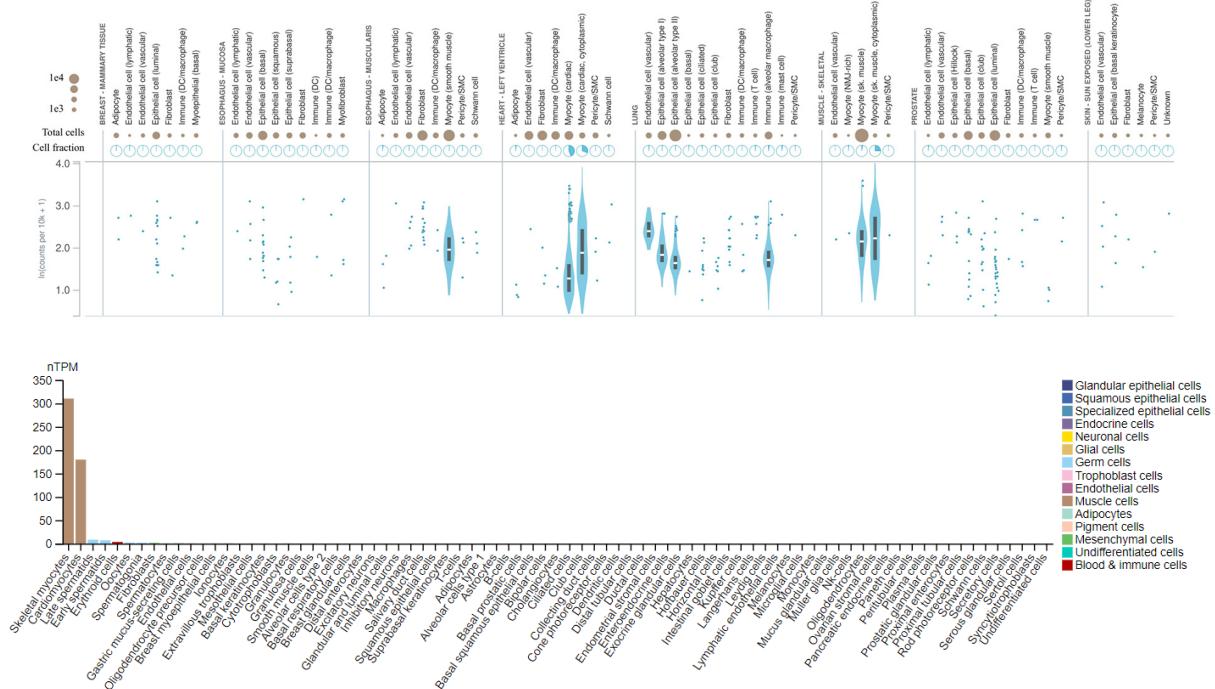
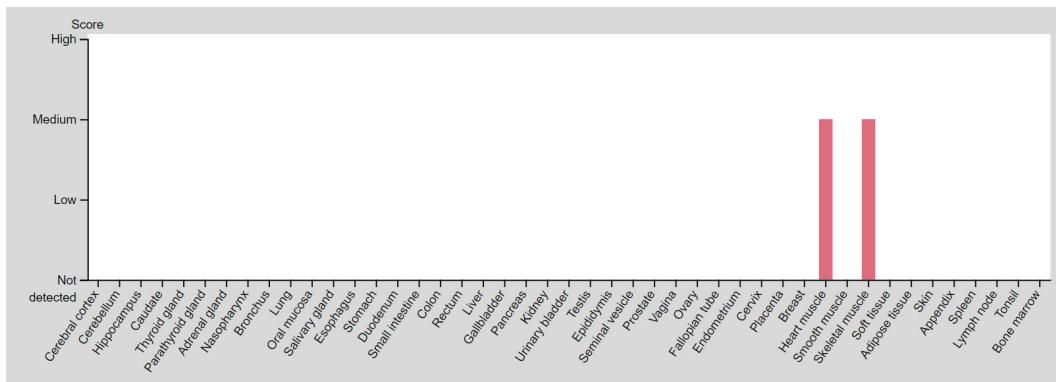


## Supplementary Information



**Supplementary Figure S1. *RPL3L* mRNA expression across human cell types.** The cell-type specific expression data is based on single-cell snRNA sequencing and was obtained from (above) GTEx portal (<https://gtexportal.org/home/gene/RPL3L>) and (below) Human Protein Atlas database (<https://www.proteinatlas.org/ENSG00000140986-RPL3L/single+cell+type>), respectively. *RPL3L* is specifically expressed in myocytes. Furthermore, a higher fraction of heart myocytes shows the expression of the gene at mRNA level. Negligible expression of *RPL3L* is also exhibited by a few other cells.



**Supplementary Figure S2. *RPL3L* protein expression across human tissues.** The protein level expression of *RPL3L* was obtained from Human Protein Atlas database

(<https://www.proteinatlas.org>) and is based on immunohistochemical assays. As shown in the figure, RPL3L protein is specifically expressed in heart and skeletal muscle tissues.

**Supplementary Table S1. 'MAPK signaling' pathway genes common between human and mouse**

Symbol	Name	logFC [Human]	Abs fold [Human]	adj.P.Val [Human]	Sample p(r) [Mouse]
FLT1	fms related receptor tyrosine kinase 1	-0.64	-1.56	6.28E-05	0.0499
EGFR	epidermal growth factor receptor	0.49	1.40	0.00025	0.0103
PPM1A	protein phosphatase, Mg <sup>2+</sup> /Mn <sup>2+</sup> dependent 1A	-0.56	-1.48	0.002391	0.0445
PPP3CC	protein phosphatase 3 catalytic subunit gamma	0.39	1.31	0.003197	0.0006
PPP5C	protein phosphatase 5 catalytic subunit	0.25	1.19	0.012586	0.0096
FGFR1	fibroblast growth factor receptor 1	-0.25	-1.19	0.012764	0.0002
ERBB3	erb-b2 receptor tyrosine kinase 3	0.33	1.25	0.030347	0.0269
CACNG6	calcium voltage-gated channel auxiliary subunit gamma 6	0.50	1.42	0.000241	0.0346
LAMTOR3	late endosomal/lysosomal adaptor, MAPK and MTOR activator 3	-0.61	-1.53	0.001723	0.0018
TNFRSF1A	TNF receptor superfamily member 1A	-0.53	-1.44	0.004441	0.0279
MKNK2	MAPK interacting serine/threonine kinase 2	-0.62	-1.53	0.004473	0.0076
TGFBR2	transforming growth factor beta receptor 2	-0.76	-1.70	0.00594	0.0006
IKBKB	inhibitor of nuclear factor kappa B kinase subunit beta	-0.46	-1.37	0.006658	0.0283
MAPKAPK5	MAPK activated protein kinase 5	-0.63	-1.54	0.007019	0.0096
PRKACA	protein kinase cAMP-activated catalytic subunit alpha	0.31	1.24	0.012752	0.0263
CACNA1H	calcium voltage-gated channel subunit alpha1 H	0.39	1.31	0.016581	0.0001
MAPK14	mitogen-activated protein kinase 14	-0.42	-1.34	0.024777	0.0459
AKT3	AKT serine/threonine kinase 3	-0.50	-1.41	0.026523	0.0062
CACNA2D1	calcium voltage-gated channel auxiliary subunit alpha2delta 1	0.24	1.18	0.031604	0.0463
FLNB	filamin B	-0.31	-1.24	0.033218	0.0098
GADD45G	growth arrest and DNA damage inducible gamma	-0.77	-1.71	0.047004	0.0271

**Supplementary Table S2. 'Adrenergic signaling in cardiomyocytes' pathway genes common between human and mouse**

Symbol	Name	logFC [Human]	Abs fold [Human]	adj.P.Val [Human]	Sample p(r) [Mouse]
CREB5	cAMP responsive element binding protein 5	-0.85	-1.80	0.002622	0.0199
ADCY1	adenylate cyclase 1	0.30	1.23	0.012066	0.0034

CACNG6	calcium voltage-gated channel auxiliary subunit gamma 6	0.50	1.42	0.000241	0.0346
PPP2CA	protein phosphatase 2 catalytic subunit alpha	-0.77	-1.71	0.000408	0.1612
CREB3L2	cAMP responsive element binding protein 3 like 2	0.33	1.26	0.000678	0.0040
ADCY7	adenylylate cyclase 7	0.39	1.31	0.000871	0.0289
ADCY8	adenylylate cyclase 8	0.43	1.35	0.002981	0.0497
ATP1B3	ATPase Na+/K+ transporting subunit beta 3	-0.48	-1.39	0.008923	0.0294
PRKACA	protein kinase cAMP-activated catalytic subunit alpha	0.31	1.24	0.012752	0.0263
ADCY2	adenylylate cyclase 2	-0.26	-1.20	0.016076	0.0035
MAPK14	mitogen-activated protein kinase 14	-0.42	-1.34	0.024777	0.0459
AKT3	AKT serine/threonine kinase 3	-0.50	-1.41	0.026523	0.0062
TPM4	tropomyosin 4	-0.70	-1.63	0.031045	0.1457
CACNA2D1	calcium voltage-gated channel auxiliary subunit alpha2delta 1	0.24	1.18	0.031604	0.0463
ADRA1A	adrenoceptor alpha 1A	-0.52	-1.44	0.034298	0.0005
AGTR1	angiotensin II receptor type 1	-0.79	-1.72	0.009744	0.0274

**Supplementary Table S3. 'Autophagy - animal' pathway genes common between human and mouse**

Symbol	Name	logFC [Human]	Abs fold [Human]	adj.P.Val [Human]	Sample p(r) [Mouse]
RRAGC	Ras related GTP binding C	-0.61	-1.53	0.000643	0.0434
ATG10	autophagy related 10	0.33	1.26	0.003734	0.0001
PRKCQ	protein kinase C theta	0.36	1.28	0.00735	0.0250
PPP2CA	protein phosphatase 2 catalytic subunit alpha	-0.77	-1.71	0.000408	0.1612
WDR41	WD repeat domain 41	-0.56	-1.48	0.00298	0.0309
PRKACA	protein kinase cAMP-activated catalytic subunit alpha	0.31	1.24	0.012752	0.0263
AKT3	AKT serine/threonine kinase 3	-0.50	-1.41	0.026523	0.0062
CAMKK2	calcium/calmodulin dependent protein kinase kinase 2	0.25	1.19	0.04589	0.0338
HMGB1	high mobility group box 1	-0.47	-1.38	0.049242	0.0143

**Supplementary Table S4. 'Protein processing in endoplasmic reticulum' pathway genes common between human and mouse**

Symbol	Name	logFC [Human]	Abs fold [Human]	adj.P.Val [Human]	Sample p(r) [Mouse]
SSR3	signal sequence receptor subunit 3	-0.62	-1.54	0.00921	0.0284
CANX	calnexin	-0.59	-1.51	0.021533	0.0057
ATF6	activating transcription factor 6	-0.31	-1.24	0.023509	0.0347

DERL1	derlin 1	-0.61	-1.53	0.031392	0.2102
UBE2G1	ubiquitin conjugating enzyme E2 G1	-0.67	-1.59	0.0018	0.1310
SEC61G	SEC61 translocon subunit gamma	-0.82	-1.77	0.004346	0.0222
PDIA3	protein disulfide isomerase family A member 3	-0.50	-1.42	0.016309	0.0304
PRKN	parkin RBR E3 ubiquitin protein ligase	0.19	1.14	0.028373	0.0144
CKAP4	cytoskeleton associated protein 4	0.19	1.14	0.038451	0.0240
STT3B	STT3 oligosaccharyltransferase complex catalytic subunit B	-0.35	-1.28	0.040382	0.0172
STT3A	STT3 oligosaccharyltransferase complex catalytic subunit A	-0.44	-1.36	0.045837	0.0172

**Supplementary Table S5. 'Focal adhesion' pathway genes common between human and mouse**

Symbol	Name	logFC [Human]	Abs fold [Human]	adj.P.Val [Human]	Sample p(r) [Mouse]
FLT1	fms related receptor tyrosine kinase 1	-0.64	-1.56	0.00006	0.04985
EGFR	epidermal growth factor receptor	0.49	1.40	0.00025	0.01033
PARVA	parvin alpha	-0.54	-1.46	0.00129	0.02801
LAMA4	laminin subunit alpha 4	0.52	1.43	0.00010	0.01558
VWF	von Willebrand factor	0.41	1.33	0.00130	0.00011
COL1A1	collagen type I alpha 1 chain	0.35	1.27	0.00676	0.00110
ZYX	zyxin	0.54	1.45	0.01584	0.00144
LAMA5	laminin subunit alpha 5	-0.33	-1.26	0.01793	0.02276
ACTN1	actinin alpha 1	0.27	1.20	0.02479	0.00028
AKT3	AKT serine/threonine kinase 3	-0.50	-1.41	0.02652	0.00622
FLNB	filamin B	-0.31	-1.24	0.03322	0.00984
TLN1	talin 1	-0.41	-1.33	0.04639	0.01342

**Supplementary Table S6. 'PI3K-Akt signaling' pathway genes common between human and mouse**

Symbol	Name	logFC [Human]	Abs fold [Human]	adj.P.Val [Human]	Sample p(r) [Mouse]
CDK6	cyclin dependent kinase 6	-0.67	-1.59	0.00003	0.02976
FLT1	fms related receptor tyrosine kinase 1	-0.64	-1.56	0.00006	0.04985
EGFR	epidermal growth factor receptor	0.49	1.40	0.00025	0.01033
GNG4	G protein subunit gamma 4	0.33	1.25	0.00056	0.02995
CASP9	caspase 9	-0.46	-1.38	0.00073	0.04546
CREB5	cAMP responsive element binding protein 5	-0.85	-1.80	0.00262	0.01987
FGFR1	fibroblast growth factor receptor 1	-0.25	-1.19	0.01276	0.00022
MCL1	MCL1 apoptosis regulator, BCL2 family member	-0.49	-1.40	0.01944	0.04869

ERBB3	erb-b2 receptor tyrosine kinase 3	0.33	1.25	0.03035	0.02686
OSMR	oncostatin M receptor	-0.50	-1.42	0.04204	0.00755
LAMA4	laminin subunit alpha 4	0.52	1.43	0.00010	0.01558
PPP2CA	protein phosphatase 2 catalytic subunit alpha	-0.77	-1.71	0.00041	0.03263
YWHAZ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein zeta	-0.63	-1.54	0.00062	0.01604
CREB3L2	cAMP responsive element binding protein 3 like 2	0.33	1.26	0.00068	0.00396
VWF	von Willebrand factor	0.41	1.33	0.00130	0.00011
GNB1	G protein subunit beta 1	-0.48	-1.39	0.00426	0.03153
IKBKB	inhibitor of nuclear factor kappa B kinase subunit beta	-0.46	-1.37	0.00666	0.02835
COL1A1	collagen type I alpha 1 chain	0.35	1.27	0.00676	0.00110
LAMA5	laminin subunit alpha 5	-0.33	-1.26	0.01793	0.02276
AKT3	AKT serine/threonine kinase 3	-0.50	-1.41	0.02652	0.00622