

Table S1 List of gene models surveyed in this study

Species (Database)	Gene ID	Gene Name	Label in Figs.2&3	Gene Family
<i>Saccharomyces cerevisiae</i> (ENSEMBL)	YNL238W	<i>KEX2</i>	Sce-kexin	Kexin-like
	YCR045C	<i>RRT12</i>		PK-like
	YEL060C	<i>PRB1</i>		PK-like
	YOR003W	<i>YSP3</i>		PK-like
<i>Acanthamoeba castellanii</i> (ENSEMBL)	ACA1_057280			Kexin-like
	ACA1_234230			Kexin-like
	ACA1_387910			Kexin-like
	ACA1_264710			S1P-like
	ACA1_222700			PK-like
	ACA1_128830			PK-like
	ACA1_223330			PK-like
	ACA1_273880			PK-like
	ACA1_321400			PK-like
	ACA1_155550			PK-like
	ACA1_278460			PK-like
	ACA1_316750			PK-like
	ACA1_326080			PK-like
ACA1_149240			TPPII	
<i>Capsaspora owczarzaki</i> (ENSEMBL)	CAOG_004148		Cow-pcsk	Kexin-like
	CAOG_005995			S1P-like
	CAOG_003679			PK-like
	CAOG_006156			PK-like
	CAOG_007483			TPPII
<i>Monosiga brevicollis</i> (ENSEMBL)	MONBRDRAFT_30798		Mbr-30798	Kexin-like
	MONBRDRAFT_14515		Mbr-14515	Kexin-like
	MONBRDRAFT_27758			S1P-like
	MONBRDRAFT_34612			TPPII
<i>Amphimedon queenslandica</i> (ENSEMBL)	Aqu2.1.25568		Aqu-25568	Kexin-like
	Aqu2.1.31170		Aqu-31170	Kexin-like
	Aqu2.1.28225		Aqu-28225	Kexin-like
	Aqu2.1.24525		Aqu-24525	Kexin-like
	Aqu2.1.31171		Aqu-31171	Kexin-like
	Aqu2.1.23420		Aqu-23420	Kexin-like
	Aqu2.1.11050 + Aqu2.1.11051			Kexin-like
	Aqu2.1.05739			Kexin-like
	Aqu2.1.11049			Kexin-like
	Aqu2.1.44231			S1P-like
	Aqu2.1.38120			PK-like
	Aqu2.1.39723			PK-like
	Aqu2.1.38118			PK-like
	Aqu2.1.37599			PK-like
	Aqu2.1.38117			PK-like
	Aqu2.1.32598			PK-like

Species (Database)	Gene ID	Gene Name	Label in Figs.2&3	Gene Family
<i>Amphimedon queenslandica</i> (ENSEMBL) cont.	Aqu2.1.30105			PK-like
	Aqu2.1.38114			PK-like
	Aqu2.1.38119			PK-like
	Aqu2.1.38116			PK-like
	Aqu2.1.08606 + Aqu2.1.08607			PK-like
	Aqu2.1.00245			PK-like
	Aqu2.1.30109			PK-like
	Aqu2.1.38115			PK-like
	Aqu2.1.02987			TPPII
	Aqu2.1.43819			TPPII
<i>Mnemiopsis leidyi</i> (ENSEMBL)	ML11682a		Mle-11682	Kexin-like
	ML20261a		Mle-20261	Kexin-like
	ML207912a		Mle-207912	Kexin-like
	ML07022a		Mle-7022	Kexin-like
	ML200226a		Mle-200226	Kexin-like
	ML279823a		Mle-279823	Kexin-like
	ML009145a			S1P-like
<i>Trichoplax adherens</i> (ENSEMBL)	TriadG60295		Tad-60295	Kexin-like
	TriadG22925		Tad-22925	Kexin-like
	TriadG54612		Tad-54612	Kexin-like
	TriadG19704			S1P-like
	TriadG61672			TPPII
<i>Nematostella vectensis</i> (ENSEMBL)	NEMVEDRAFT_v1g234208		Nve-234208	Kexin-like
	NEMVEDRAFT_v1g348		Nve-348	Kexin-like
	NEMVEDRAFT_v1g129977		Nve-129977	Kexin-like
	NEMVEDRAFT_v1g161314		Nve-161314	Kexin-like
	NEMVEDRAFT_v1g160244		Nve-160244	Kexin-like
	NEMVEDRAFT_v1g112522		Nve-112522	Kexin-like
	NEMVEDRAFT_v1g168742		Nve-168742	Kexin-like
	NEMVEDRAFT_v1g134107 + NEMVEDRAFT_v1g2207		Nve-184	Kexin-like
	NEMVEDRAFT_v1g112587 + NEMVEDRAFT_v1g1125 38			Kexin-like
	NEMVEDRAFT_v1g225607			S1P-like
	NEMVEDRAFT_v1g225649			S1P-like
	NEMVEDRAFT_v1g225649			TPPII
<i>Lottia gigantean</i> (ENSEMBL)	LotgiG106119		Lgi-106119	Kexin-like
	LotgiG81964		Lgi-81964	Kexin-like
	LotgiG102960		Lgi-102960	Kexin-like
	LotgiG212426		Lgi-212426	Kexin-like
	LotgiG112524		Lgi-112524	Kexin-like
	LotgiG224835		Lgi-224835	Kexin-like
	LotgiG123675			S1P-like
	LotgiG129137			TPPII
<i>Crassostrea gigas</i> (ENSEMBL)	CGI_10016370		Cgi-34782	Kexin-like

Species (Database)	Gene ID	Gene Name	Label in Figs.2&3	Gene Family
<i>Crassostrea gigas</i> (ENSEMBL) cont.	CGI_10003367		Cgi-26985	Kexin-like
	CGI_10003191		Cgi-21858	Kexin-like
	CGI_10019653		Cgi-23284	Kexin-like
	CGI_10022584		Cgi-35453	Kexin-like
	CGI_10027463		Cgi-29248	Kexin-like
	CGI_10013398		Cgi-25267	Kexin-like
	CGI_10004432			Kexin-like
	CGI_10009470			S1P-like
	CGI_10005825			TPPII
<i>Octopus bimaculoides</i> (ENSEMBL)	Ocbimv22002644m.g		Obi-02644	Kexin-like
	Ocbimv22020256m.g		Obi-20256	Kexin-like
	Ocbimv22016958m.g		Obi-16958	Kexin-like
	Ocbimv22028944m.g		Obi-28944	Kexin-like
	Ocbimv22033366m.g			Kexin-like
	Ocbimv22014564m.g			S1P-like
	Ocbimv22020590m.g			TPPII
<i>Capitella teleta</i> (ENSEMBL)	CapteG52595		Cte-52595	Kexin-like
	CapteG161485		Cte-161485	Kexin-like
	CapteG153069		Cte-153069	Kexin-like
	CapteG121853		Cte-121853	Kexin-like
	CapteG194857		Cte-194857	Kexin-like
	CapteG177803		Cte-177803	Kexin-like
	CapteG228241			S1P-like
	CapteG217313			PK-like
	CapteG169944			PK-like
	CapteG220467			PK-like
	CapteG54371			PK-like
	CapteG127412			PK-like
	CapteG54339			PK-like
	CapteG83747			PK-like
	CapteG121340			PK-like
	CapteG61455			PK-like
	CapteG184079			PK-like
	CapteG163820			PK-like
	CapteG217316			PK-like
	CapteG228048			TPPII
<i>Helobdella robusta</i> (ENSEMBL)	HelroG193616	<i>Hro-pcsk1</i>	Hro-PCSK1	Kexin-like
	HelroG96355	<i>Hro-pcsk2</i>	Hro-PCSK2	Kexin-like
	HelroG84740	<i>Hro-furin1.1</i>	Hro-furin1.1	Kexin-like
	HelroG170307	<i>Hro-furin1.2</i>	Hro-furin1.2	Kexin-like
	HelroG107946	<i>Hro-furin1.3</i>	Hro-furin1.3	Kexin-like
	HelroG82350	<i>Hro-furin1.4</i>	Hro-furin1.4	Kexin-like
	HelroG105284	<i>Hro-furin1.5</i>	Hro-furin1.5	Kexin-like
	HelroG190143 + HelroG93024	<i>Hro-furin1.6</i>	Hro-furin1.6	Kexin-like
	HelroG72480	<i>Hro-furin1.7</i>	Hro-furin1.7	Kexin-like
	HelroG74170 + Helro149650 + Helro137839	<i>Hro-furin2-like</i>	Hro-furin2-like	Kexin-like

Species (Database)	Gene ID	Gene Name	Label in Figs.2&3	Gene Family
<i>Helobdella robusta</i> (ENSEMBL) cont.	HelroG81814 + Helro184031	<i>Hro-pcsk7</i>	Hro-PCSK7	Kexin-like
	HelroG82977	<i>Hro-pcskx</i>	Hro-PCSKX	Kexin-like
	HelroG194246			S1P-like
	HelroG107485			TPPII
<i>Lingula anatine</i> (ENSEMBL)	g1247		Lan-1247	Kexin-like
	g33407		Lan-33407	Kexin-like
	g4306		Lan-4306	Kexin-like
	g15382		Lan-15382	Kexin-like
	g404		Lan-404	Kexin-like
	g15960		Lan-15960	Kexin-like
	g6253		Lan-6253	Kexin-like
	g405		Lan-405	Kexin-like
	g1500		Lan-1500	Kexin-like
	g27514		Lan-27514	Kexin-like
	g8872		Lan-8872	Kexin-like
	g25567		Lan-25567	Kexin-like
	g4660 + g4661			Kexin-like
	g24092 + g24091			Kexin-like
	g2559 + g2560			Kexin-like
	g26156			Kexin-like
	g11440			Kexin-like
	g31800			S1P-like
	g8392			S1P-like
	g6563 + g6562			S1P-like
	g20349			PK-like
	g19508			PK-like
	g20348			PK-like
	g33287			PK-like
	g10243			PK-like
	g11146			PK-like
	g11147			PK-like
	g14553			PK-like
	g10176			PK-like
	g14555			PK-like
	g14554			PK-like
	g19487			PK-like
	g17482			PK-like
	g12444			PK-like
	g22139			PK-like
	g26421			PK-like
g33111			PK-like	
g10242			PK-like	
g10384			PK-like	
g13429			PK-like	
g32391			PK-like	
g10239			PK-like	
g10385			PK-like	
g12204			PK-like	

Species (Database)	Gene ID	Gene Name	Label in Figs.2&3	Gene Family
<i>Lingula anatine</i> (ENSEMBL) cont.	g22137			PK-like
	g16160			PK-like
	g19488			PK-like
	g32390			PK-like
	g10241			PK-like
	g31346			PK-like
	g13431			PK-like
	g12443			PK-like
	g12202			PK-like
	g12201			PK-like
	g16771			PK-like
	g19485			PK-like
	g5629			PK-like
	g3976			PK-like
	g755			PK-like
	g31345			PK-like
	g3977			PK-like
	g22552			PK-like
	g4081			PK-like
	g22549			PK-like
	g10565			PK-like
	g15680			PK-like
	g5630			PK-like
	g31844			PK-like
	g26421			PK-like
	g29291			PK-like
	g31805			PK-like
	g19878			TPPII
	g30441			TPPII
	<i>Adineta vaga</i> (ENSEMBL)	GSADVT00036980001		Ava-36980
GSADVT00007527001			Ava-07527	Kexin-like
GSADVT00040037001			Ava-40037	Kexin-like
GSADVT00045121001			Ava-45121	Kexin-like
GSADVT00031184001			Ava-31184	Kexin-like
GSADVT00040267001			Ava-40267	Kexin-like
GSADVT00059080001			Ava-59080	Kexin-like
GSADVT00030251001			Ava-30251	Kexin-like
GSADVT00046357001			Ava-46357	Kexin-like
GSADVT00002479001			Ava-02479	Kexin-like
GSADVT00004015001			Ava-04015	Kexin-like
GSADVT00048266001			Ava-48266	Kexin-like
GSADVT00019939001			Ava-19939	Kexin-like
GSADVT00030411001			Ava-30411	Kexin-like
GSADVT00046798001			Ava-46798	Kexin-like
GSADVT00039465001			Ava-39465	Kexin-like
GSADVT00017404001 + GSADVT0001740300				Kexin-like
GSADVT00058030001				Kexin-like
GSADVT00049407001			Kexin-like	

Species (Database)	Gene ID	Gene Name	Label in Figs.2&3	Gene Family
<i>Adineta vaga</i> (ENSEMBL) cont.	GSADVT00039914001			S1P-like
	GSADVT00018118001			S1P-like
	GSADVT00006009001			TPPII
	GSADVT00061992001			TPPII
<i>Drosophila melanogaster</i> (ENSEMBL)	amon	amon	Dme-amon	Kexin-like
	Fur1	furin1	Dme-furin1	Kexin-like
	Fur2	furin2	Dme-furin2	Kexin-like
	S1P	S1P		S1P-like
	TppII	TppII		TPPII
<i>Tribolium castaneum</i> (ENSEMBL)	TC004402		Tca-pcsk1	Kexin-like
	TC009181		Tca-pcsk2	Kexin-like
	TC010869		Tca-furin1	Kexin-like
	TC031960		Tca-furin2	Kexin-like
	TC002816			S1P-like
	TC034512			TPPII
<i>Daphnia pulex</i> (ENSEMBL)	DAPPUDRAFT_59868		Dpu-59868	Kexin-like
	DAPPUDRAFT_126713		Dpu-126713	Kexin-like
	DAPPUDRAFT_43136		Dpu-43136	Kexin-like
	DAPPUDRAFT_193075		Dpu-193075	Kexin-like
	DAPPUDRAFT_306271		Dpu-306271	Kexin-like
	DAPPUDRAFT_306585		Dpu-306585	Kexin-like
	DAPPUDRAFT_310948			S1P-like
	DAPPUDRAFT_186919			TPPII
<i>Caenorhabditis elegans</i> (ENSEMBL)	aex-5	aex-5	Cel-aex5	Kexin-like
	egl-3	egl-3	Cel-pcsk2	Kexin-like
	kpc-1	kpc-1	Cel-kpc1	Kexin-like
	bli-4	bli-4	Cel-bli4	Kexin-like
	tpp-2	tpp-2		TPPII
<i>Strongylocentrotus purpuratus</i> (ENSEMBL)	SP-NEC2_1	SP-NEC2_1	Spu-027781	Kexin-like
	SP-FURIN1	SP-FURIN1	Spu-010722	Kexin-like
	SP-FURIN	SP-FURIN	Spu-002615	Kexin-like
	SP-NEC2	SP-NEC2	Spu-023813	Kexin-like
	SP-FURIN_1	SP-FURIN_1	Spu-028030	Kexin-like
	SP-PCSK7	SP-PCSK7		Kexin-like
	SP-FURIN_2	SP-FURIN_2		Kexin-like
	SP-MBTSP1	SP-MBTSP1		S1P-like
	SP-ASP_8			PK-like
	SP-SLSP_3 / SP-ASPL_2			PK-like
	SP-HYPP_305			PK-like
	SP-ASP_12			PK-like
	SP-ASP_16 / SPU_014264 / SP-SLSP_10			PK-like
	SP-HYPP_1141			PK-like
	SP-SLSP_26			PK-like
SP-ASP-4			PK-like	

Species (Database)	Gene ID	Gene Name	Label in Figs.2&3	Gene Family
<i>Strongylocentrotus purpuratus</i> (ENSEMBL) cont.	SP-SLSP_27			PK-like
	SP-ASP_7 / SP-SLSP_17			PK-like
	SP-ASP			PK-like
	SP-ASP-3			PK-like
	SP-ASP_11			PK-like
	SP-SLSP_18			PK-like
	SP-SLSP_12			PK-like
	SP-SLSP_25 / SP-ASP-6 / SP-ASP-5			PK-like
	SP-SERP			PK-like
	SP-SLSP_13			PK-like
	SP-SLSP_20			PK-like
	SP-SLSP_8			PK-like
	SP-SERP-2			PK-like
	SP-SLSP_4			PK-like
	SP-ASP_14			PK-like
	SP-SLSP_14			PK-like
	SP-SLSP_15			PK-like
	SP-SLSP_21			PK-like
	SP-SLSP_22			PK-like
	SP-SERP-3			PK-like
	SP-SLSP_24			PK-like
	SP-SLSP_6			PK-like
	SPU_025143 / SPU_009043			PK-like
	SP-SLSP_1			PK-like
	SP-SLSP_11			PK-like
	SP-ASP_13 / SP-ASP_15			PK-like
	SP-ASP_10			PK-like
	SP-SLSP_7			PK-like
	SP-PPCL			PK-like
	SP-ASP_9			PK-like
	SP-ASP-2			PK-like
	SP-ASP_17			PK-like
	SP-SLSP_5			PK-like
	SP-SLSP			PK-like
	SP-SLSP_9			PK-like
	SP-SLSP_16			PK-like
	SP-ASP_1			PK-like
	SP-SLSP_2			PK-like
	SPU_003191			PK-like
	SPU_018846			PK-like
	SPU_025576			PK-like
	SP-SLSP_19			PK-like
	SP-PCSK9L			PK-like
SP-ASPL_1			PK-like	
SPU_015237			PK-like	
SPU_003192			PK-like	
SP-HYPP_3123			PK-like	
SP-SLSP_23			PK-like	
SPU_025326			PK-like	

Species (Database)	Gene ID	Gene Name	Label in Figs.2&3	Gene Family
<i>Strongylocentrotus purpuratus</i> (ENSEMBL) cont.	SPU_027076			PK-like
	SPU_022967			PK-like
	SPU_014673			PK-like
	SP-ALLGIF1			PK-like
	SP-SLSPL / SPU_012623			PK-like
	SP-TPP2			TPPII
<i>Branchiostoma floridae</i> (JGI)	Braf84610		Bfl-84610	Kexin-like
	Braf98086		Bfl-98086	Kexin-like
	Braf66271		Bfl-66271	Kexin-like
	Braf75530		Bfl-75530	Kexin-like
	Braf98844		Bfl-98844	Kexin-like
	Braf105744		Bfl-105744	Kexin-like
	Braf119857		Bfl-119857	Kexin-like
	Braf1121298		Bfl-1121298	Kexin-like
	Braf123943		Bfl-123943	Kexin-like
	Braf165115		Bfl-165115	Kexin-like
	Braf1165859		Bfl-1165859	Kexin-like
	Braf166302		Bfl-166302	Kexin-like
	Braf174236		Bfl-174236	Kexin-like
	Braf85770		Bfl-85770	Kexin-like
	Braf91496		Bfl-91496	Kexin-like
	Braf124316		Bfl-124316	Kexin-like
	Braf144492		Bfl-144492	Kexin-like
	Braf254769		Bfl-254769	Kexin-like
	Braf65099			S1P-like
	Braf81022			PK-like
	Braf102644			PK-like
	Braf129459			PK-like
	Braf118415			PK-like
	Braf130739			PK-like
	Braf107715			PK-like
	Braf265827			PK-like
	Braf131810			PK-like
	Braf130113			PK-like
	Braf121465			PK-like
	Braf121466			PK-like
	Braf119698			TPPII
	Braf119705			TPPII
<i>Ciona intestinalis</i> (ENSEMBL)	ENSCING00000006411		Cin-219063	Kexin-like
	ENSCINT00000012624		Cin-294743	Kexin-like
	ENSCINT00000011797		Cin-292557	Kexin-like
	ENSCINT00000010394		Cin-248784	Kexin-like
	ENSCINT00000012580		Cin-270411	Kexin-like
	ENSCINT00000035891			S1P-like
	ENSCINT00000016248			TPPII
<i>Petromyzon marinus</i> (ENSEMBL)	ENSPMAT00000009791			Kexin-like

Species (Database)	Gene ID	Gene Name	Label in Figs.2&3	Gene Family
<i>Petromyzon marinus</i> (ENSEMBL) cont.	ENSPMAT00000009884			Kexin-like
	ENSPMAT00000009883			Kexin-like
	ENSPMAT00000001746			Kexin-like
	ENSPMAT00000001849			S1P-like
<i>Danio rerio</i> (ENSEMBL)	pcsk1	pcsk1		Kexin-like
	pcsk2	pcsk2		Kexin-like
	furinA	furinA		Kexin-like
	furinB	furinB		Kexin-like
	pcsk5a	pcsk5a		Kexin-like
	pcsk5b	pcsk5b		Kexin-like
	pcsk6	pcsk6		Kexin-like
	pcsk7	pcsk7		Kexin-like
	mbtps1	mbtps1		S1P-like
	pcsk9	pcsk9		PK-like
tpp2	tpp2		TPPII	
<i>Xenopus tropicalis</i> (ENSEMBL)	pcsk1	pcsk1	Xtr-pcsk1	Kexin-like
	pcsk2	pcsk2	Xtr-pcsk2	Kexin-like
	furin	furin	Xtr-furin	Kexin-like
	pcsk4	pcsk4	Xtr-pcsk4	Kexin-like
	pcsk5	pcsk5	Xtr-pcsk5	Kexin-like
	pcsk6	pcsk6	Xtr-pcsk6	Kexin-like
	pcsk7	pcsk7	Xtr-pcsk7	Kexin-like
	mbtps1	mbtps1		S1P-like
	pcsk9	pcsk9		PK-like
	tpp2	tpp2		TPPII
<i>Gallus gallus</i> (ENSEMBL)	PCSK1	PCSK1	Gga-pcsk1	Kexin-like
	PCSK2	PCSK2	Gga-pcsk2	Kexin-like
	FURIN	FURIN	Gga-furin	Kexin-like
	PCSK4	PCSK4	Gga-pcsk4	Kexin-like
	PCSK5	PCSK5	Gga-pcsk5	Kexin-like
	PCSK6	PCSK6	Gga-pcsk6	Kexin-like
	PCSK7	PCSK7	Gga-pcsk7	Kexin-like
	MBTPS1	MBTPS1		S1P-like
	TPP2	TPP2		TPPII
<i>Homo sapiens</i> (ENSEMBL)	PCSK1	PCSK1	Hsa-pcsk1	Kexin-like
	PCSK2	PCSK2	Hsa-pcsk2	Kexin-like
	FURIN	FURIN	Hsa-furin	Kexin-like
	PCSK4	PCSK4	Hsa-pcsk4	Kexin-like
	PCSK5	PCSK5	Hsa-pcsk5	Kexin-like
	PCSK6	PCSK6	Hsa-pcsk6	Kexin-like
	PCSK7	PCSK7	Hsa-pcsk7	Kexin-like
	MBTPS1	MBTPS1		S1P-like
	PCSK9	PCSK9		PK-like
	TPP2	TPP2		TPPII

Table S2. PCR primers used to amplify cDNA fragments of the 12 *Helobdella austinensis* kexin-like convertase

Primer IDs	Sequence (5' to 3')
Hau-pcsk1 forward	5'-TGGACGAGGTGTCGTCGTCA-3'
Hau-pcsk1 reverse	5'-GGATGTTCTGTGTCTTTGCA-3'
Hau-pcsk2 forward	5'-CTTCGAACACAAACTCGTTCA-3'
Hau-pcsk2 reverse	5'-TCAAAACTCGCTAAACTTCCT-3'
Hau-furin1.1 forward	5'-CCGTCCAAATTGAGGGAGGAA-3'
Hau-furin1.1 reverse	5'-CATGAAAGCCCAGTTGGTGA-3'
Hau-furin1.2 forward	5'-CGCGAAATACATAGCGGAAA-3'
Hau-furin1.2 reverse	5'-CAATTGGTGAAACCCTCGTT-3'
Hau-furin1.3 forward	5'-CAGATCGACGGCAATGAAACAGT-3'
Hau-furin1.3 reverse	5'-GCGCACATGCAAACTATCT-3'
Hau-furin1.4 forward	5'-GCGAAAGAAGTTGCCAGGGA-3'
Hau-furin1.4 reverse	5'-CGTCGTCATGAAAGTCCAGT-3'
Hau-furin1.5 forward	5'-AGATCGCTTTCAAGCAACAGTTATCA-3'
Hau-furin1.5 reverse	5'-TCAAAATCGTCTTTGGCAAT-3'
Hau-furin1.6 forward	5'-CAGTCTGGTACAGGCATTCCTATTGGT-3'
Hau-furin1.6 reverse	5'-CAAGACATCATTCATGGTAATGA-3'
Hau-furin1.7 forward	5'-GTACAGAAATGAATGGGCAGT-3'
Hau-furin1.7 reverse	5'-CCATTCATTGAAACCTTCGTT-3'
Hau-furin2-like forward	5'-GGCAGTGGAATTGAGGGTGGT-3'
Hau-furin2-like reverse	5'-CTTCCAGGTACCTCTGGGAT-3'
Hau-pcsk7 forward	5'-CATAACATCACTGGCAGGGGCA-3'
Hau-pcsk7 reverse	5'-GAAGGTATCGTAGAGTGCCAT-3'
Hau-pcskx forward	5'-CGGCCTGGGTCAAAGGTTACA-3'
Hau-pcskx reverse	5'-GATGGATTCTCACCCAGCT-3'

Table S3. PCR primers for building constructs and performing site-direct mutagenesis

Construct Primer IDs	Sequence (5' to 3')
pCS107 Hau-bmp5-8 _{CSM}	
Hau-bmp5-8 cleavage site 1 mutagenesis forward	5'-GCCGACATAAGAAACCTCGGA-3'
Hau-bmp5-8 cleavage site 1 mutagenesis reverse	5'-AGATC <u>CTTTCTTTCC</u> CTCACTCAACTGA-3'
Hau-bmp5-8 cleavage sites 2+3 mutagenesis forward	5'-GATAGT <u>GGAACAAGG</u> AAATTCGTA-3'
Hau-bmp5-8 cleavage sites 2+3 mutagenesis reverse	5'-CTTGCC <u>CACTTTCC</u> GGTTTTGAA-3'
pCS107 Hau-bmp5-8 ^{FLAG+HA}	
Hau-bmp5-8 FLAG insertion forward	5'- <u>GACGATAAGAAGAAACCAA</u> ACTATCTTACCAGACTCTGTCAAC-3'
Hau-bmp5-8 FLAG insertion reverse	5'- <u>GTCATCCTTGTAAATCGT</u> ACGAATTTCTCTTGTTCGGACTATCCTTGC-3'
Hau-bmp5-8 HA insertion forward	5'- <u>GATGTTCCAGATTACGCT</u> CAGCAGTATTCAAATGACGGCGGC-3'
Hau-bmp5-8 HA insertion reverse	5'- <u>GTATGGGTATTTCGTGATGGT</u> GATGTTGAGGTGGAG-3'
pCS107 Hau-bmp5-8 ^{GFP}	
Hau-bmp5-8 NheI-SacI insertion forward	5'- <u>AGAGCTCTACAAGAAGAAACCAA</u> ACTATCTT-3'
Hau-bmp5-8 NheI-SacI insertion reverse	5'- <u>GGCTAGCCGAATTTCTCTTGT</u> TCCGACTATC-3'
GFP forward + NheI site	5'- <u>GGCTAGCATGGT</u> GAGCAAGGGCGAGGAG-3'
GFP reverse + SacI site	5'- <u>AGAGCTCCTTGTACAGCTCGT</u> CCATGCCG-3'
pMiEF1P Hau-furin1.1	
Hau-furin1.1 forward + ClaI site	GAAC <u>ATCGATATGAATTTT</u> ATGATGATCATTTGCTACCT
Hau-furin1.1 reverse + XhoI site	GAAC <u>TCGAGAAATGCTAATAAATTT</u> AAACAATAAAGATCATAATGA