

Table S1. List of DUBs, E2 enzymes, and E3 ubiquitin ligases that were screened for enhancement or suppression of the *vps-29(tm1320)* QL.d migration phenotype (SUP: suppression of *vps-29* QL.d migration phenotype, ENH: enhancement of *vps-29* QL.d migration phenotype, empty: no change).

DUB	C04E6.5	E2	Y54G2A.31	RING	C45G7.4	
DUB	C08B11.7	E2	Y69H2.6	RING	C49H3.5	
DUB	C34F6.9	E2	Y71G12B.15	RING	C52E12.1	
DUB	E01B7.1	E2	Y87G2A.9	RING	C53A5.6	
DUB	F07A11.4	E2	Y94H6A.6	RING	C53D5.2	
DUB	F14D2.7			RING	C55A6.1	
DUB	F21D5.2	HECT	C34D4.14	RING	C56A3.4	
DUB	F28F8.6	HECT	D2085.4	RING	D2089.2	ENH
DUB	F29C4.5	HECT	F36A2.13	RING	F08B12.2	
DUB	F30A10.10	HECT	F45H7.6	RING	F08G12.5	
DUB	F35B3.1	HECT	Y39A1C.2	RING	F10D7.5	
DUB	F38B7.5	HECT	Y48G8AL.1	RING	F10G7.10	
DUB	F46E10.8	HECT	Y65B4BR.4	RING	F11A10.3	
DUB	F59E12.6	HECT	Y67D8C.5	RING	F16A11.1	SUP
DUB	H19N07.2			RING	F19G12.1	
DUB	H34C03.2	Ubox	F59E10.2	RING	F23B2.10	
DUB	K02C4.3	Ubox	T05H10.5	RING	F26F4.7	
DUB	K08B4.5	Ubox	T09B4.10	RING	F26G5.9	
DUB	K09A9.4			RING	F32A6.3	SUP
DUB	R10E11.3	RING	B0281.3	RING	F35G12.9	ENH
DUB	T05H10.1	RING	B0281.8	RING	F36F2.3	
DUB	T22F3.2	RING	B0393.6	RING	F40G9.12	
DUB	T24B8.7	RING	B0416.4	RING	F40G9.14	
DUB	T27A3.2	RING	C01B7.6	RING	F42C5.4	
DUB	Y106G6H.12	RING	C01G6.4	RING	F42G2.5	
DUB	Y40G12A.1	RING	C02B8.6	RING	F43C11.7	
DUB	Y50C1A.1	RING	C06A5.8	RING	F43G6.8	
DUB	Y71A12B.9	RING	C06A5.9	RING	F45G2.6	
DUB	ZK328.1	RING	C11H1.3	RING	F46F2.1	
		RING	C12C8.3	RING	F47G9.4	
E2	B0403.2	RING	C15F1.5	RING	F53F8.3	
E2	C06E2.3	RING	C16C10.5	RING	F53G2.7	
E2	C28G1.1	RING	C16C10.7	RING	F54B11.5	
E2	D1022.1	RING	C17E4.3	RING	F55A11.7	
E2	F25H2.8	RING	C17H11.6	RING	F55A3.1	
E2	F29B9.6	RING	C18B12.4	RING	F56D2.2	
E2	F40G9.3	RING	C18H9.7	RING	F58B6.3	
E2	F49E12.4	RING	C26B9.6	RING	F58E6.1	
E2	F58A4.10	RING	C30F2.2	RING	H05L14.2	
E2	M7.1	RING	C32D5.10	RING	H10E21.5	
E2	R01H2.6	RING	C32D5.11	RING	K01G5.1	
E2	R09B3.4	RING	C32E8.1	RING	K02B12.8	
E2	Y110A2AR.2	RING	C34E10.4	RING	K04C2.4	
E2	Y54E5B.4	RING	C36A4.8	RING	K09F6.7	

RING K11D12.9
RING K12B6.8
RING M02A10.3
RING M110.3
RING M142.6
RING M88.3
RING R02E12.4
RING R05D3.4
RING R06F6.2
RING R10A10.2
RING T01C3.3
RING T01G5.7
RING T02C1.1
RING T05A12.4
RING T08D2.4
RING T13A10.2
RING T20F5.6
RING T20F5.7
RING T22B2.1
RING T23F6.3
RING T24D1.2
RING T26C12.3
RING W02A11.3
RING W04H10.3
RING Y105C5B.11
RING Y105E8A.14
RING Y38H8A.2
RING Y45F10B.8
RING Y45F10B.9
RING Y47D3B.11
RING Y47G6A.14
RING Y52E8A.2
RING Y53G8AM.4
RING Y55F3AM.6
RING Y57A10B.1
RING Y71F9AL.10
RING Y73C8C.7
RING Y73C8C.8
RING Y75B8A.10
RING Y7A9C.1
RING ZC13.1
RING ZK1240.1
RING ZK1240.2
RING ZK1240.3
RING ZK1240.6
RING ZK287.5
RING ZK637.14
RING ZK809.7

SKR C06A8.4

SKR C42D4.6
SKR C52D10.6
SKR C52D10.7
SKR C52D10.8
SKR C52D10.9
SKR F13A7.9
SKR F44G3.6
SKR F46A9.4
SKR F46A9.5
SKR F47H4.10
SKR F54D10.1
SKR K08H2.1
SKR R12H7.3
SKR R12H7.5
SKR Y105C5B.13
SKR Y37H2C.2
SKR Y47D7A.1
SKR Y47D7A.8

