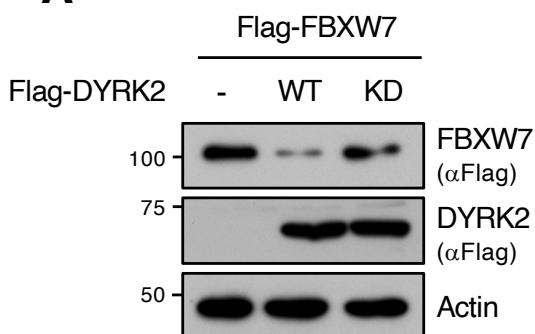
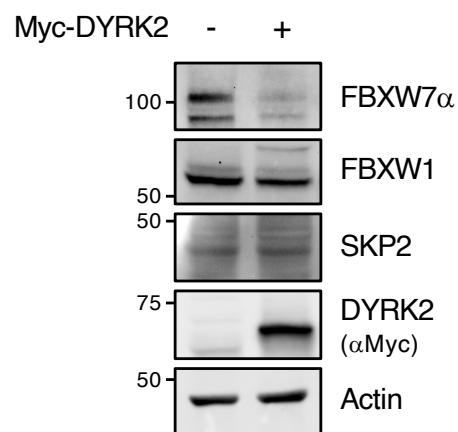


Supplemental Figure 1

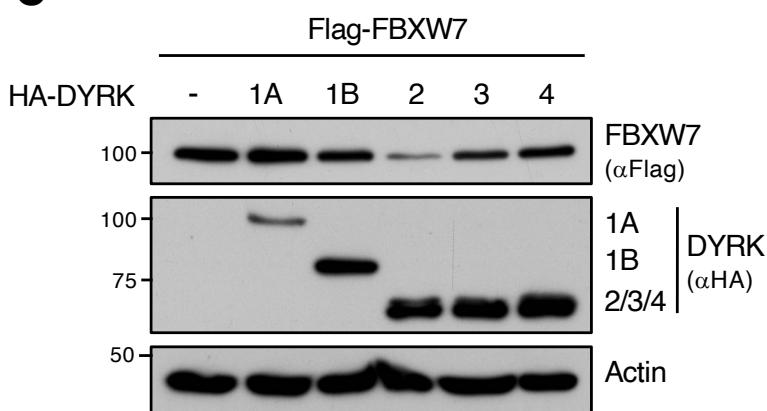
A



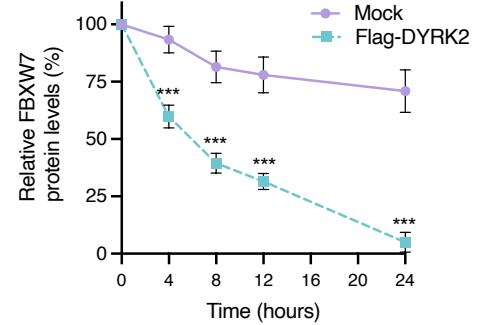
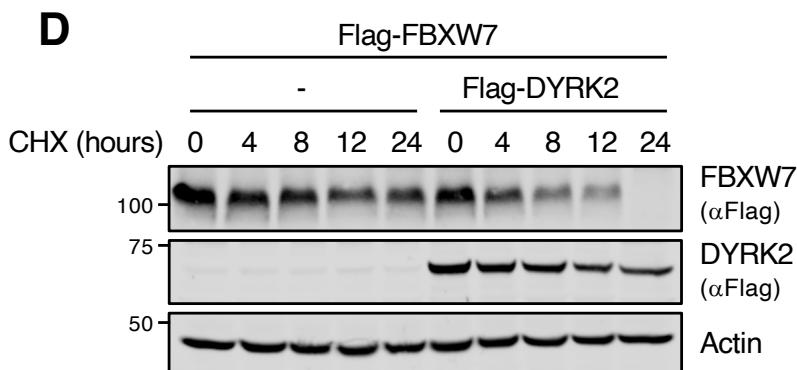
B



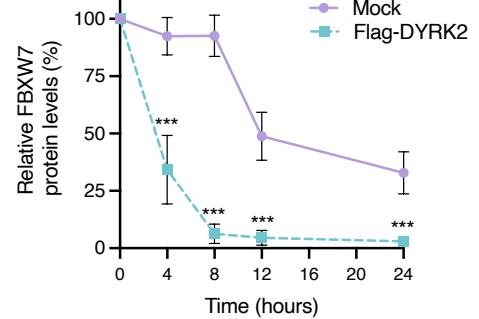
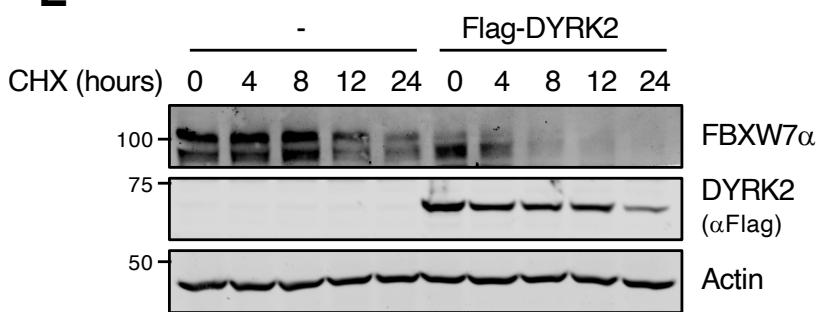
C



D

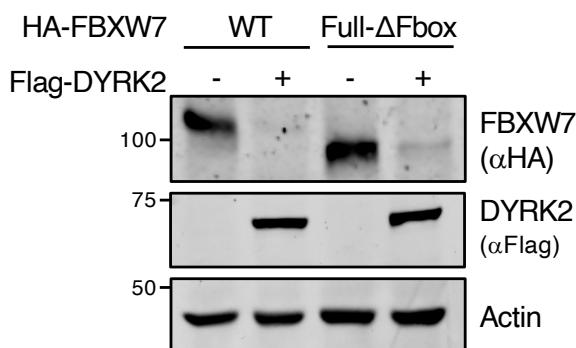


E

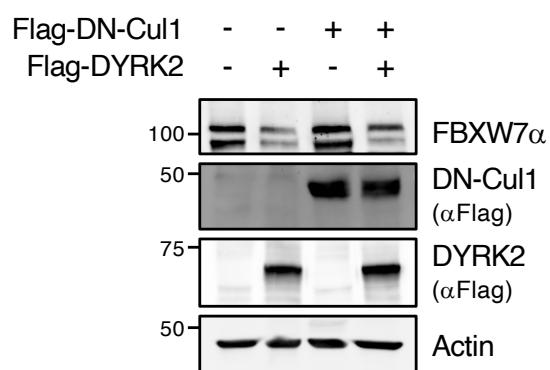


Supplemental Figure 1

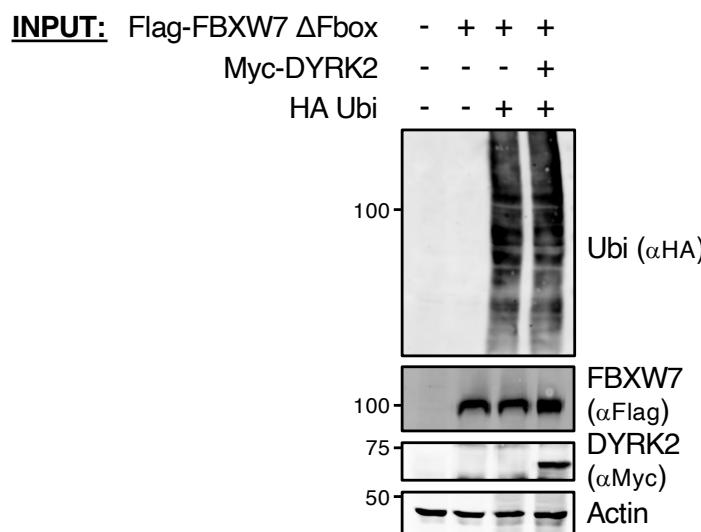
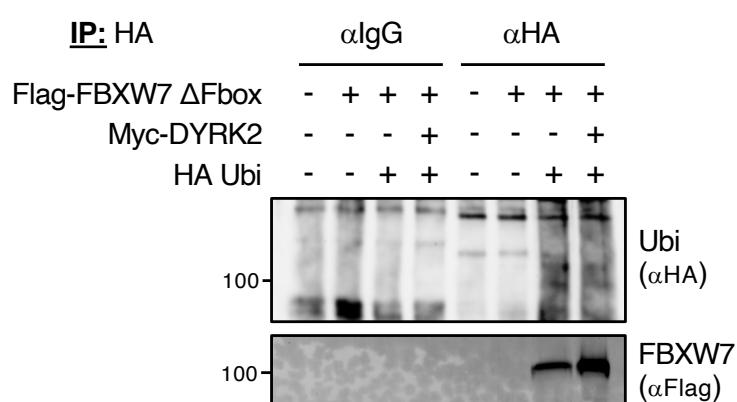
F



G

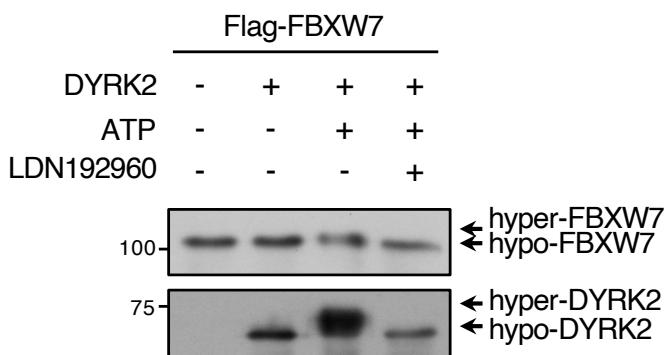


H



Supplemental Figure 2

A

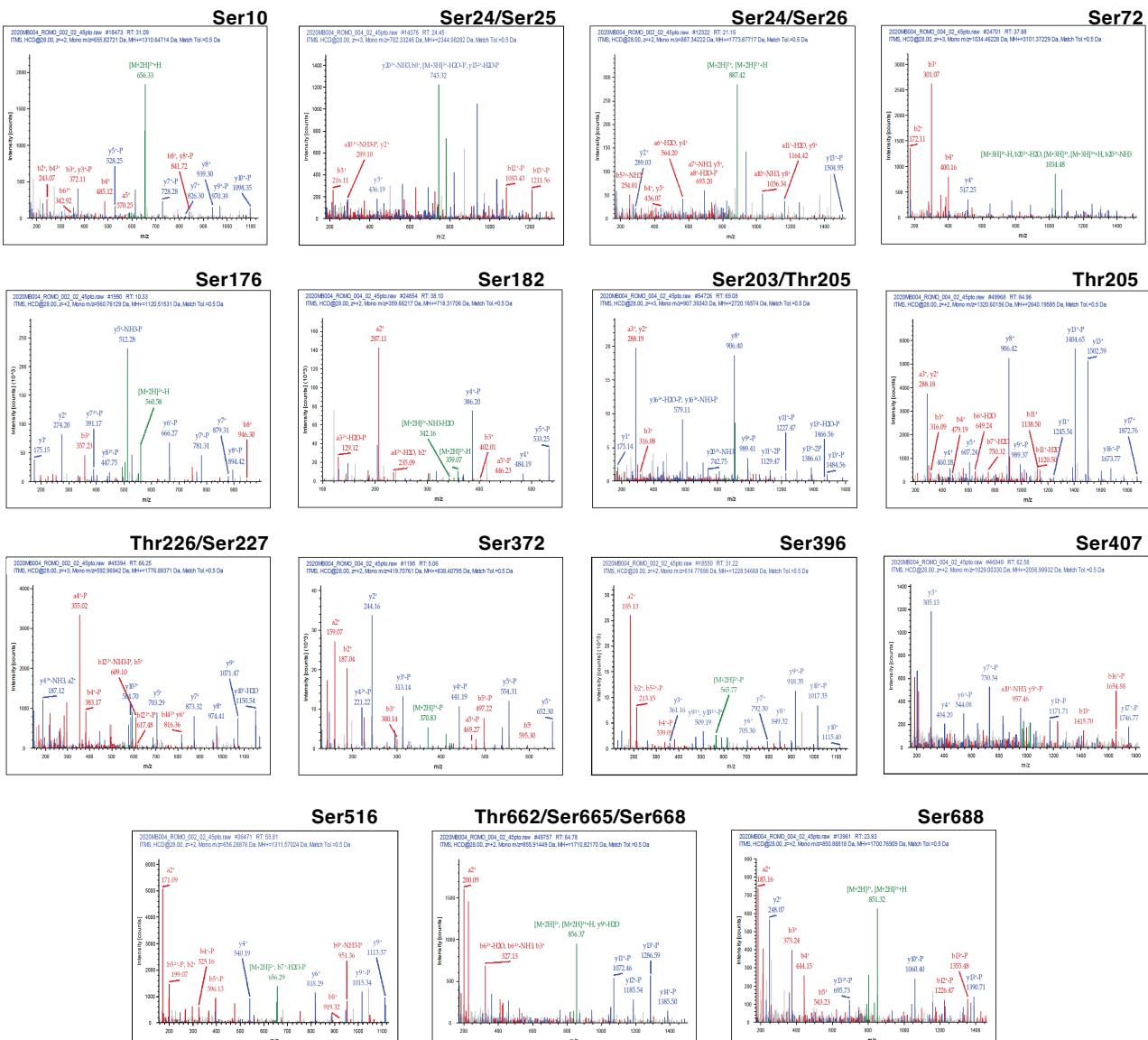


B

10	20	30	40	50
MNQELLSVG S	KRRRTGGSLR	GNP SSS QVDE	EQMNRVVEEE	QQQQLRQEEE
60	70	80	90	100
EHTARNGEV	GVEPRPGGDN	DSQQGQLEEN	NNRFISVDED	SSCNQEEQEE
110	120	130	140	150
DEEHAGEQDE	EDEEEEEEEMDQ	ESDDFDQSDD	SSREDEHTHNT	NSVTNNSSSIV
160	170	180	190	200
DLPVHQQLSSP	FYTAKTTKMKR	KLDHGSEVR	F SLGKKPCPK	SEYTSTTGLV
210	220	230	240	250
PCSA T PTTFG	DLRAANGQQ	QRRIIT SVQP	PTGLQEWLKM	FQSWSGPEKL
260	270	280	290	300
LALDELDISC	EPTQVKHMMQ	VIEPQFQRDF	ISLLPKELAL	YLVSFLEPKD
310	320	330	340	350
LLQAAQTCRY	WRILAEDNL	WREKCKEEGI	DEPLHIKRK	VIKPGFIHSP
360	370	380	390	400
WKSAYIRQHR	IDTNWRRGEL	K SPKVLKGHD	DHVITCLQFC	GNRIV S GSDD
410	420	430	440	450
NTLKVVWSAVT	GKCLRTLGVH	TGGWSSQMR	DNIIISGSTD	RTLKVWNATE
460	470	480	490	500
GECIHTLYGH	TSTVRCMHLH	EKRVVSGSRD	ATLRLWDIET	GQCLHVLIMGH
510	520	530	540	550
VAAVRCVQYD	GRRVV S GAYD	FMVKVWDPET	ETCLHTLQGH	TNRYVSLQFD
560	570	580	590	600
GIHVVGSLD	TSIRVWDVET	GNCIHTLGH	QSLTSGMELK	DNLIVSGNAD
610	620	630	640	650
STVKIWDIKT	GQCLQTLQGP	NKHQSAVTCL	QFNKNFVITS	SDDGTVKLWD
660	670	680	690	700
LKTGEFIRNL	VTLES SGGG	VVWRIRASNT	KLVCAVG S RN	GTEETKLLL

DFDVDMK

C



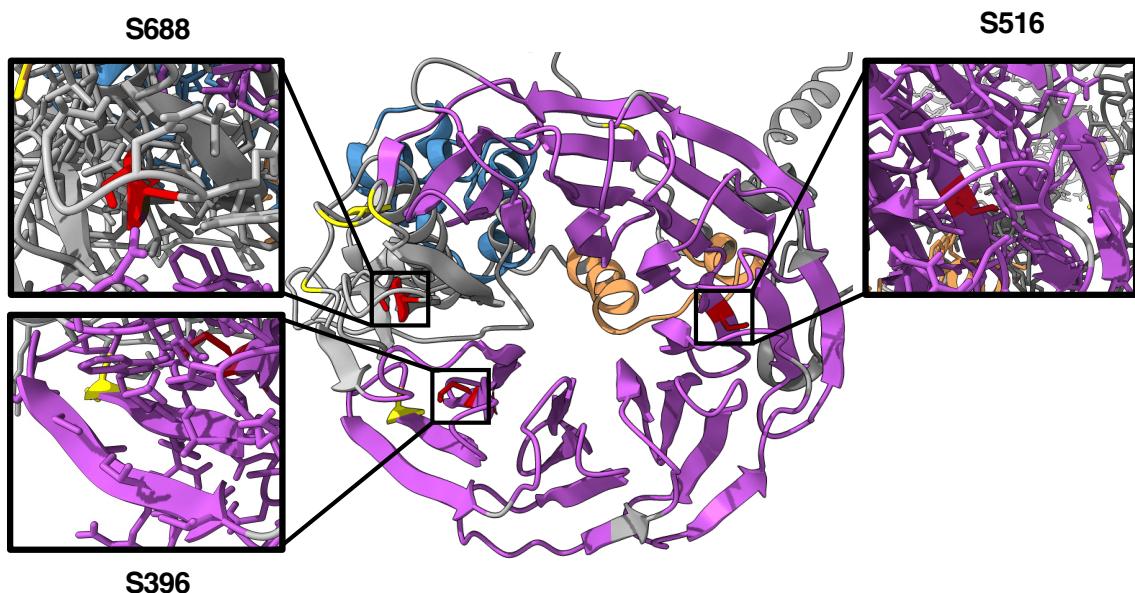
Supplemental Figure 2

D

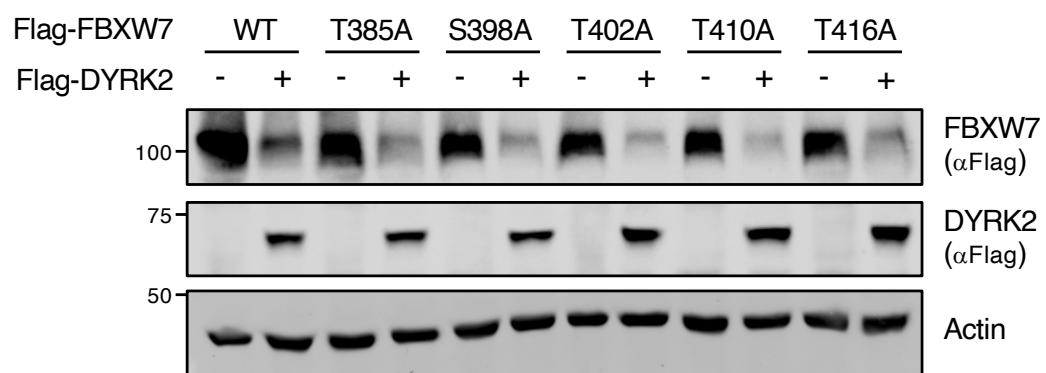
	S10	S18	S24/25/26		
H. sapiens	MNQELLSSVGSKRRRTGGSLRGNNP	SS	SVDEEQMNRVVEEEQQQLRQEEEHTARNGEVV	60	
M. musculus	MNQELLSSVGSKRRRTGGSLRGNA	SS	SVDEEQMNRVVEEDPQQQARHQEEEHTARNGEVL	60	0
B. taurus			-----		
G. gallus	MNQELLSSVGSKRRRTGGSLRANA	SS	SVDEEQMNRVVEEEQQQRQQEEQHIGRNGEIR	60	
X. laevis	MNQELLSSVGSKRRRTGGSVRGNAS	SS	SSQADEEQMNRVVEEEQQ-----QEEHVNLNEID	55	
	S72				
H. sapiens	GVEPRPGGQND	SQQGQLEENNNRFIS	VDDEDSGNQEE-----QEDEEHAGE---QDEE	111	
M. musculus	GANPRPGDQN	DT	QQGVVEENNNRFIS	114	
B. taurus	-----		VDDEDSGNQEE-----EEDEEHAGEQEEEEEE	37	
G. gallus	E-EPGFDDRRE	SQEQOLEENNNRLITV	DEESTCNQEE-----DDDEHAGDQ---EEE	108	
X. laevis	GDAPGSLERNEPH	EHLLEENNNNSCTIAD	-QESADQPGEHELHSQDEDEDEAAC---DAED	111	
H. sapiens	DEEEEEMDQESDDFDQSDSSREDEHTHTNSVTN	SS	SSIVDLPVHQLS-SPFYTKTTKMKR	170	
M. musculus	EEEEEEMDQESDDFDPSDDSSREDEHTHNSNV	TS	TNCSSVSDLPQHQLS-SPFYTKTTKMKR	173	
B. taurus	TLESVTYLP	KEPKLYCQRLPNSRT	-----H-GGTESLGKKNPEN----MGFYGTLKMFYKMKR	90	
G. gallus	VEEEEEMDQESDDFDQSDSSREDEHANS	TS	NSVTNSSLIDLPIHQ---SSPFYIKTKMKR	165	
X. laevis	EE--	EMDQSDDFEQSDDSSREEEHRNGNDIPNSNSMV	DMPINQ---QSICFNPKSKMKR	166	
	S176*	S182*	S203	T205*	T226/S227*
H. sapiens	KLDHGSEVRSF	SLGKKPKCVSEYT	STTGLVPCSA	TPTTFGDLRAANGQGQRRRITSVQP	230
M. musculus	KLDHGSEVRSF	SLGKKPKCVSDYT	STTGLVPCSA	TPTTFGDLRAANGQGQRRRITSVQP	233
B. taurus	KLDHGSEVRSF	SLGKKPKCVSEYT	STTGLVPCSA	TPTTFGDLRAANGQGQRRRITSVQP	150
G. gallus	KLDHGSEVRSF	SLGKKPKCVSEYT	STTGLVPCSA	TPTTFGDLRAANGQGQRRRITSVQP	225
X. laevis	KLDHGSEVRSF	SLGKKPKCGSEYT	STTGLVPCSA	TPTTFGDLRAANGQGQRRRITSVQP	226
	Dimerization domain		F-box		
H. sapiens	PTGLQEWLKMFSQWSGPKEKLLALDELID	SCEPTQVKHMMQVIEPQFQRDFISLPPKELAL		290	
M. musculus	PTGLQEWLKMFSQWSGPKEKLLALDELID	SCEPTQVKHMMQVIEPQFQRDFISLPPKELAL		293	
B. taurus	PTGLQEWLKMFSQWSGPKEKLLALDELID	SCEPTQVKHMMQVIEPQFQRDFISLPPKELAL		210	
G. gallus	PTGLQEWLKMFSQWSGPKEKLLALDELID	SCEPTQVKHMMQVIEPQFQRDFISLPPKELAL		285	
X. laevis	PTGLQEWLKMFSQWSGPKEKLLALDELID	SCEPTQVKHMMQVIEPQFQRDFISLPPKELAL		286	
	F-box		S349		
H. sapiens	YVLASFLEPKDLLQAQTCRYWRILAEDNLLWREK	CKEEGIDEPLHIKRRKVIKPGFIHSP		350	
M. musculus	YVLASFLEPKDLLQAQTCRYWRILAEDNLLWREK	CKEEGIDEPLHIKRRKVIKPGFIHSP		353	
B. taurus	YVLASFLEPKDLLQAQTCRYWRILAEDNLLWREK	CKEEGIDEPLHIKRRKVIKPGFIHSP		270	
G. gallus	YVLASFLEPRDLLQAQTCRYWRILAEDNLLWREK	CKEEGIDEPLHIKRRKVIKPGFIHSP		345	
X. laevis	YVLASFLEPKDLLHAAQTCRYWRILAEDNLLWREK	CKEEGIDEPLHIKRRKVIKPGFIHSP		346	
	S372*	WD1	S396	S407	
H. sapiens	WKSAYIROHRIDTNWRRGELK	SPKVLKGHHDDHVITCLQFCGNRIV	SGSDDNTLKVWSAVT		410
M. musculus	WKSAYIROHRIDTNWRRGELK	SPKVLKGHHDDHVITCLQFCGNRIV	SGSDDNTLKVWSAVT		413
B. taurus	WKSAYIROHRIDTNWRRGELK	SPKVLKGHHDDHVITCLQFCGNRIV	SGSDDNTLKVWSAVT		330
G. gallus	WKSAYIROHRIDTNWRRGELK	SPKVLKGHD-HVITCLQFCGNRIV	SGSDDNTLKVWSAVT		404
X. laevis	WKSAYIROHRIDTNWRRGELK	SPKVLKGHHDDHVITCLQFCGNRIV	SGSDDNTLKVWSAVT		406
	WD1	WD2	WD3		
H. sapiens	GKCLRTLTVGHTGGVWSSQMRDNIIISGSTDRTLKVWNAETGECIHTLYGHTSTVRCMHLH			470	
M. musculus	GKCLRTLTVGHTGGVWSSQMRDNIIISGSTDRTLKVWNAETGECIHTLYGHTSTVRCMHLH			473	
B. taurus	GKCLRTLTVGHTGGVWSSQMRDNIIISGSTDRTLKVWNAETGECIHTLYGHTSTVRCMHLH			390	
G. gallus	GKCLRTLTVGHTGGVWSSQMRDNIIISGSTDRTLKVWNAETGECIHTLYGHTSTVRCMHLH			464	
X. laevis	GKCLRTLTVGHTGGVWSSQMRDNIIISGSTDRTLKVWNAETGECIHTLYGHTSTVRCMHLH			466	
	WD3	WD4	S516		
H. sapiens	EKRVVS GSRDATL RVWDIETGQCLHVLMGHVAAVRCVQYDGRRVV	SGAYDFMVKVWDPET		530	
M. musculus	EKRVVS GSRDATL RVWDIETGQCLHVLMGHVAAVRCVQYDGRRVV	SGAYDFMVKVWDPET		533	
B. taurus	EKRVVS GSRDATL RVWDIETGQCLHVLMGHVAAVRCVQYDGRRVV	SGAYDFMVKVWDPET		450	
G. gallus	EKRVVS GSRDATL RVWDIETGQCLHVLMGHVAAVRCVQYDGRRVV	SGAYDFMVKVWDPET		524	
X. laevis	EKRVVS GSRDATL RVWN IETGQCLHVLMGHVAAVRCVQYDGRRVV	SGAYDFMVKVWDPET		526	
	WD4	WD5	WD6		
H. sapiens	ETCLH TLQGHTN RYVSLQFDGIHV VSGSLD TSIRWDVETGNCIHTLTGQSLTSGMELK			590	
M. musculus	ETCLH TLQGHTN RYVSLQFDGIHV VSGSLD TSIRWDVETGNCIHTLTGQSLTSGMELK			593	
B. taurus	ETCLH TLQGHTN RYVSLQFDGIHV VSGSLD TSIRWDVETGNCIHTLTGQSLTSGMELK			510	
G. gallus	ETCLH TLQGHTN RYVSLQFDGIHV VSGSLD TSIRWDVETGNCIHTLTGQSLTSGMELK			584	
X. laevis	ETCLH TLQGHTN RYVSLQFDGIHV VSGSLD TSIRWDVETGNCIHTLTGQSLTSGMELK			586	
	WD6	WD7			
H. sapiens	DNILVSGNADSTV KIWD IKTGQCLT QLGP NKHQS A VTCLQ FQNK NFV ITSS DDGTVKLWD			650	
M. musculus	DNILVSGNADSTV KIWD IKTGQCLT QLGP NKHQS A VTCLQ FQNK NFV ITSS DDGTVKLWD			653	
B. taurus	DNILVSGNADSTV KIWD IKTGQCLT QLGP NKHQS A VTCLQ FQNK NFV ITSS DDGTVKLWD			570	
G. gallus	DNILVSGNADSTV KIWD IKTGQCLT QLGP NKHQS A VTCLQ FQNK NFV ITSS DDGTVKLWD			644	
X. laevis	DNILVSGNADSTV KIWD IKTGQCLT QLGP NKHQS A VTCLQ FQNK NFV ITSS DDGTVKLWD			646	
	WD7	T662/S665/S668	S688*		
H. sapiens	LKTGEFIRNLV TLE SGGSGGVVWRIRASNTKLVC AVG SRNGTEETKLLV LDFDV DMK			707	
M. musculus	LKTGEFIRNLV TLE SGGSGGVVWRIRASNTKLVC AVG SRNGTEETKLLV LDFDV DMK			710	
B. taurus	LKTGEFIRNLV TLE SGGSGGVVWRIRASNTKLVC AVG SRNGTEETKLLV LDFDV DMK			627	
G. gallus	LKTGEFIRNLV TLE SGGSGGVVWRIRASNTKLVC AVG SRNGTEETKLLV LDFDV DMK			701	
X. laevis	LKTGEFIRNLV TLE SGGSGGVVWRIRASNTKLVC AVG SRNGTEETKLLV LDFDV DMK			703	

Supplemental Figure 2

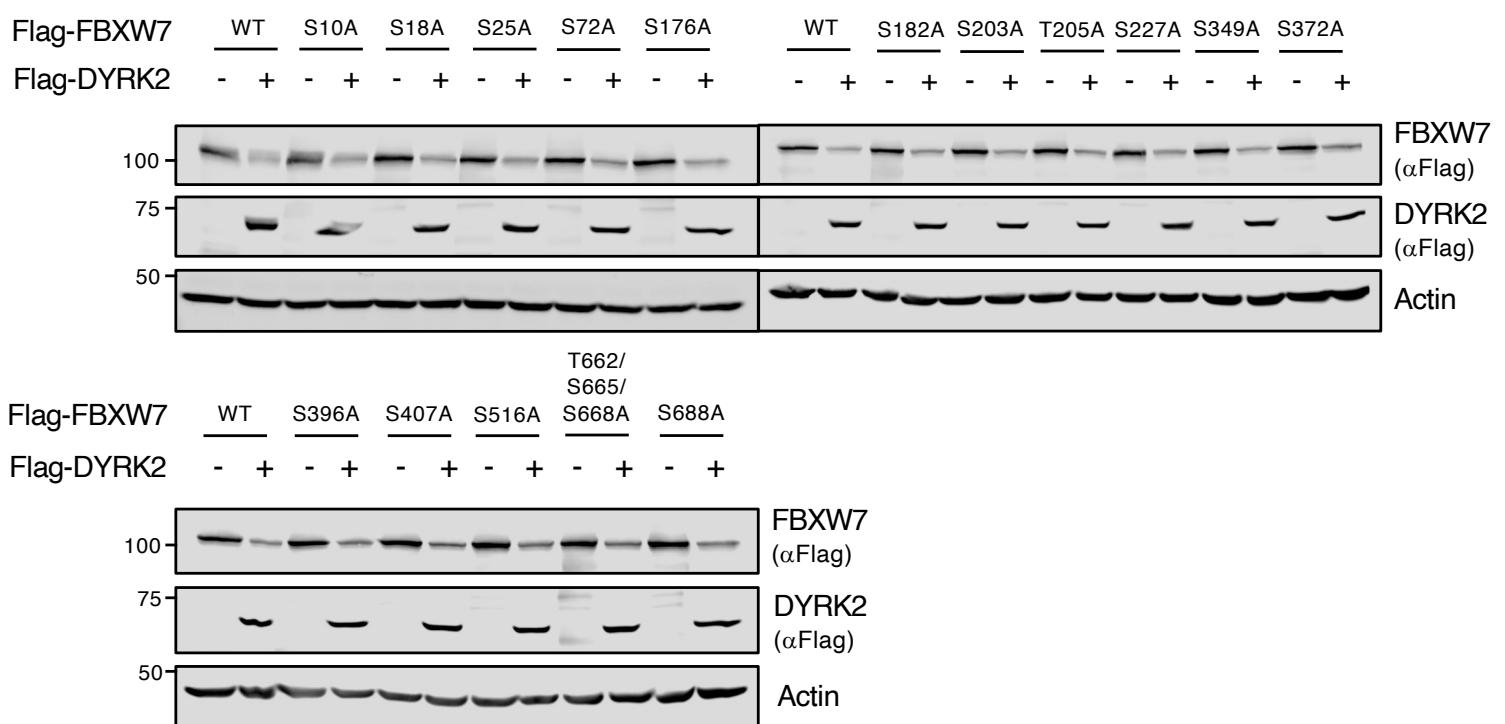
E



F



G

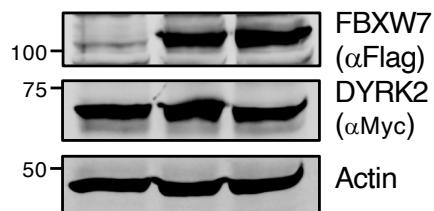


Supplemental Figure 2

H

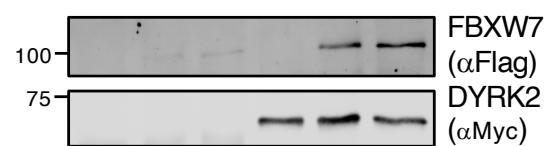
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Myc-DYRK2 WT	+	+	+



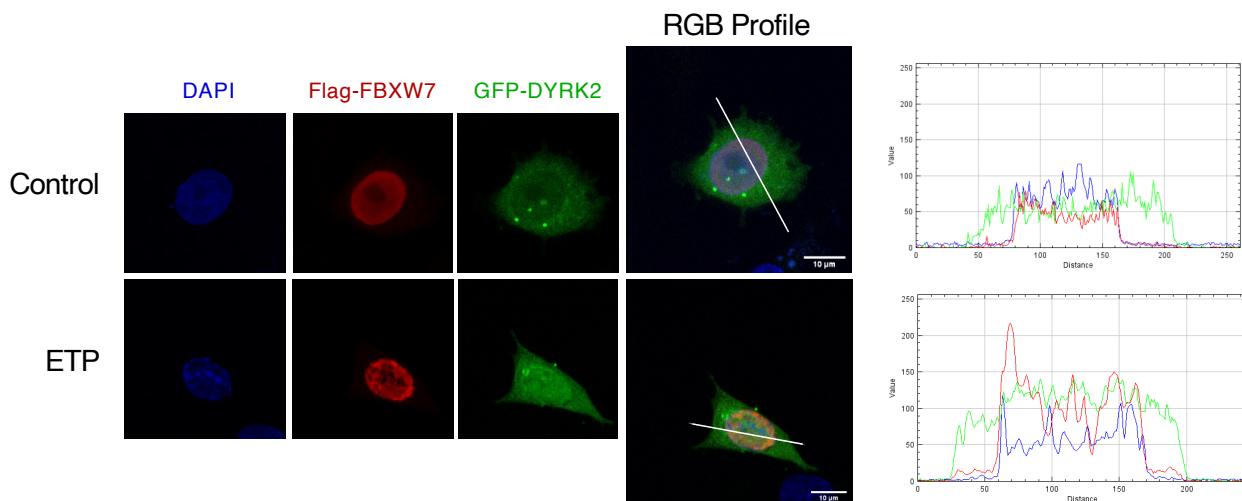
IP:

	\u03b1IgG			\u03b1Myc		
	-	+	-	-	+	-
Flag-FBXW7	-	+	-	-	+	-
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Myc-DYRK2 WT	+	+	+	+	+	+

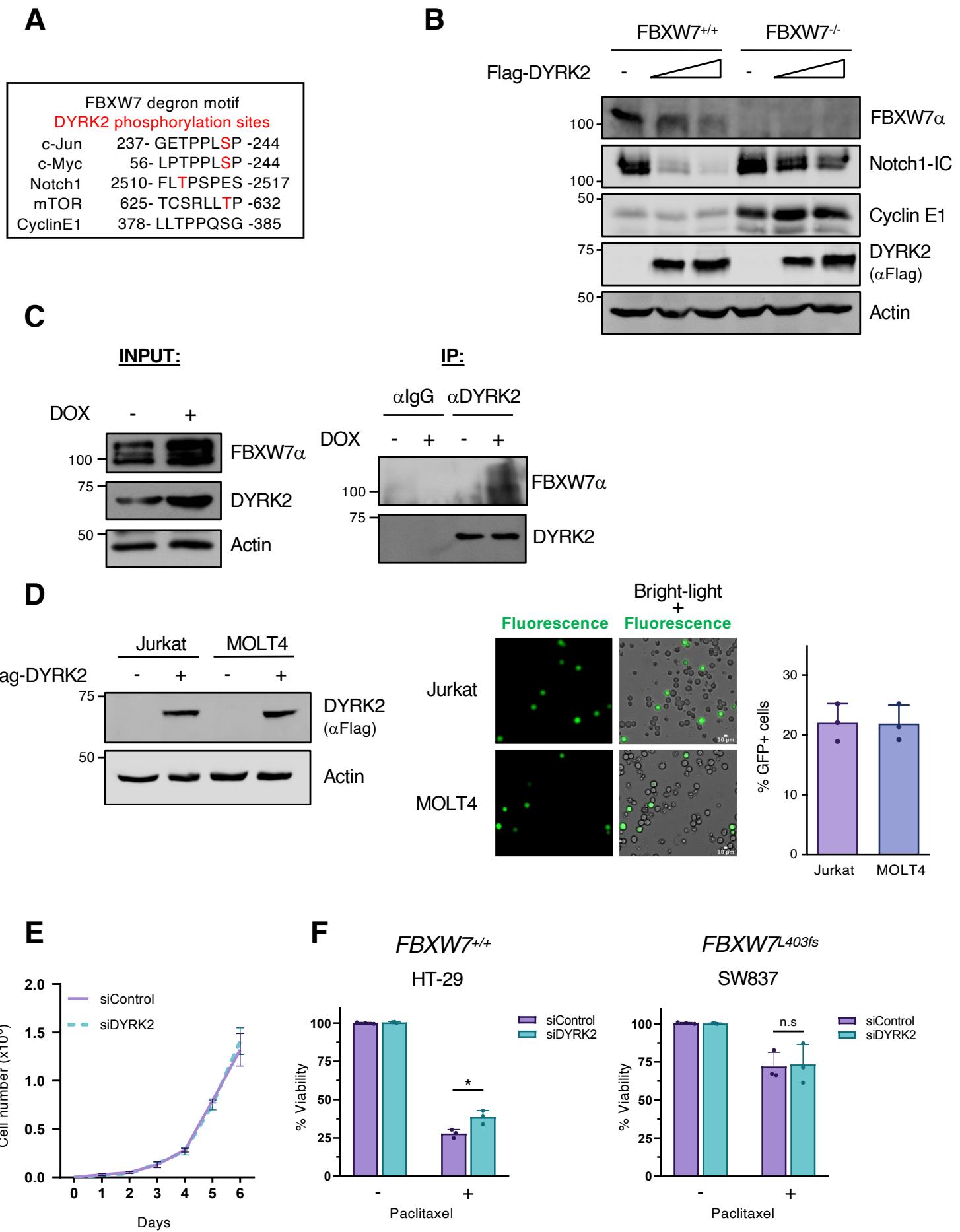


Supplemental Figure 3

A

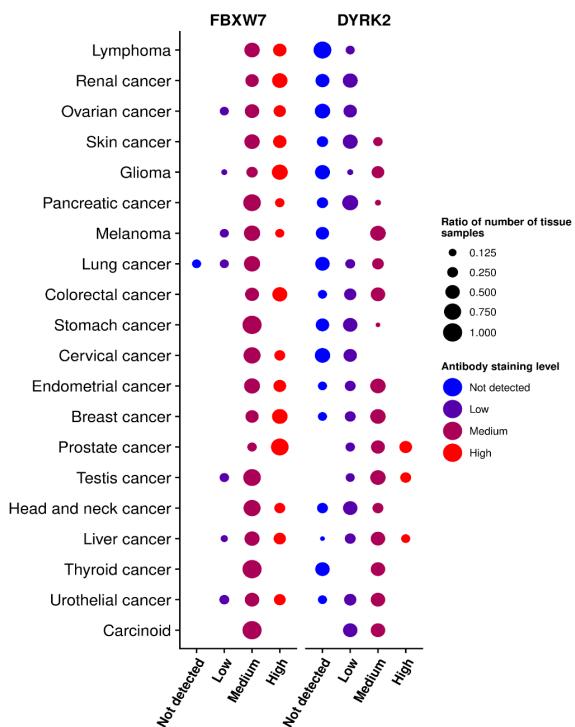


Supplemental Figure 4



Supplemental Figure 5

A



B

