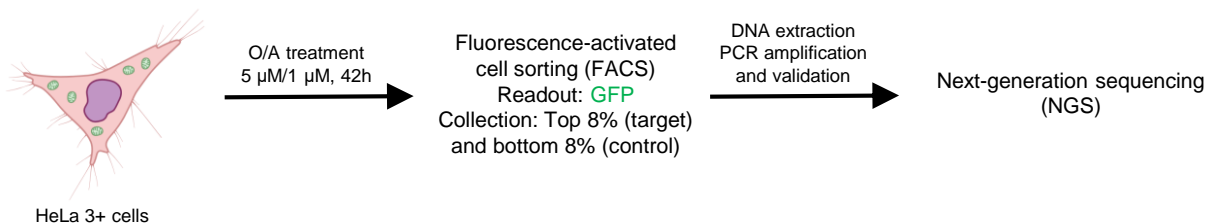


# Supplementary Figure S1

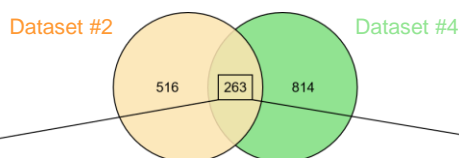
**a**



**b**

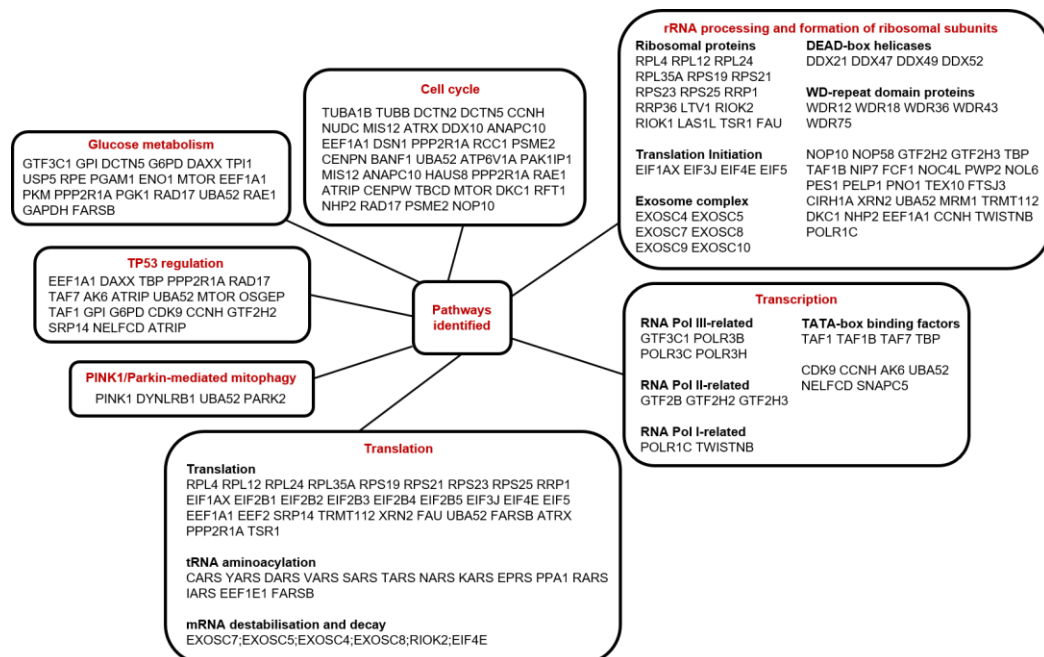
Dataset	Clone	Sequencing vendor	No. of genes	Criteria
#1	12	GIS	897	p < 0.05 > 3 sgRNAs with fold enrichment > 2
#2	31	GIS	862	
#3	12	Macrogen	912	
#4	31	Macrogen	1077	

**c**



PINK1	PGAM1	NOL6	VARS	SRFBP1	RIOK2	DDX21	PGK1	NUDC	UBA52	PPP1R8	PPP2R1A	GTPBP4	INTS3	AMY1A	GTF3C1	SGIP1	DIMT1	NMD3	
PARK2	DAXX	LAS1L	CIRH1A	ACTR10	TAF1B	RPS25	EIF1AX	TBCD	NIP7	YTHDF2	NAA10	MTOR	ZSCAN10	AMY1A	DHX15	WDR7	MYBBP1A	CPNE6	EXOSC4
G6PD	EPRS	MTPAP	LTV1	OSGEP	ZCCHC9	WDR74	ADAM30	NVL	GNP2	EIF4E	ZMAT5	TMEM199	VPS52	GLCC1	BANF1	C16orf80	NUDT16L1	CCT7	
PIAS1	CARS	GPI	EXOSC10	CCNH	GMPPFB	NHP2	FTSJ3	CDS2	CENPW	KARS	AK6	CHP2	BIRC2	ITPR1	TA7	MPHOSPH10	LITAF	CCDC64B	
ATRX	NARS	TTIC27	SARS	PWP2	PES1	ERAP1	NOC4L	RPLP1	NOP58	RPS23	DARS	TRIM33	RBBP6	HAUS8	POLR1C	RPS27A	NUS1	EEF1E1	
SETDB1	DDX49	ANAPC10	TRMT1	GAPDH	EIF1AD	RFP36	EXOSC5	RFT1	MIS12	LENG8	SNAPC5	ATR	PNO1	WDR18	RAD17	ENO1	GPXOW	ZNF296	
MORC3	TSR2	RARS	USP5	POLR3H	EIF2B2	TSR1	NELFCD	ESF1	RPS19BP1	PSME2	DDX27	DHX35	CDC23	DYNLRB1	YARS	NMT1	TUBA1B	KRTAP4-2	
MPHOSPH8	FARSB	DKC1	CCDC84	PKM	RPS19	SRP14	ZNF513	WDR43	DDX47	PELP1	RAE1	TEX10	RPL4	GRAMD4	RGS19	DBR1	RAB8B	POLR1B	
ATP6V0C	EEF2	ARMC7	NOP16	EIF5	RPL12	CINP	WDR12	RIOK1	KRT80	TWISTNB	DSN1	RPL7	TAF1	EIF2B1	RRP1	RPL24	MRM1	MRT04	
ATP6V1D	DCTN2	GUK1	EEF1A1	CDK9	SBNO1	TUBB	XRN2	GTF2H3	NOP10	RPS21	TP11	RPS9	MAK16	EIF2B5	COX8B2	BNIP1	AP2S1	RCC1	
ATP6V1C1	UTP23	POLR3C	ATRIP	GPN3	DCTN5	DDX10	FCF1	PAK1IP1	NAA25	CEBPZ	GEMIN5	FAU	BAP1	SNRNP25	DHPS	BRAT1	C3orf17	PDCD2	
ATP6V1A	IARS	DDX46	EIF6	PPA1	EXOSC7	POLR3B	GOP51	UXT	PRSS8	RBMX2	EXOSC8	KRI1	YRDC	BR1X1	DDX52	RBM28	ILF3		
ATP6AF2	AATF	GTF2H2	WDR25	GTF2B	TARS	ZDHHC15	C10orf109	EIF2B3	TBP	MESP2	PTPRA	RPE	NELFB	ER12	SEMA6B	KCTD13	HY1		
ATP2A2	ARL2	NPLOC4	EIF2B4	EIF5A	WDR36	ZNF259	EIF3J	KCMF1	DNTTIP2	RPL35A	CENPN	POP7	WDR5	TRMT112	KPNA6	KANSL2	MAPK8IP3		

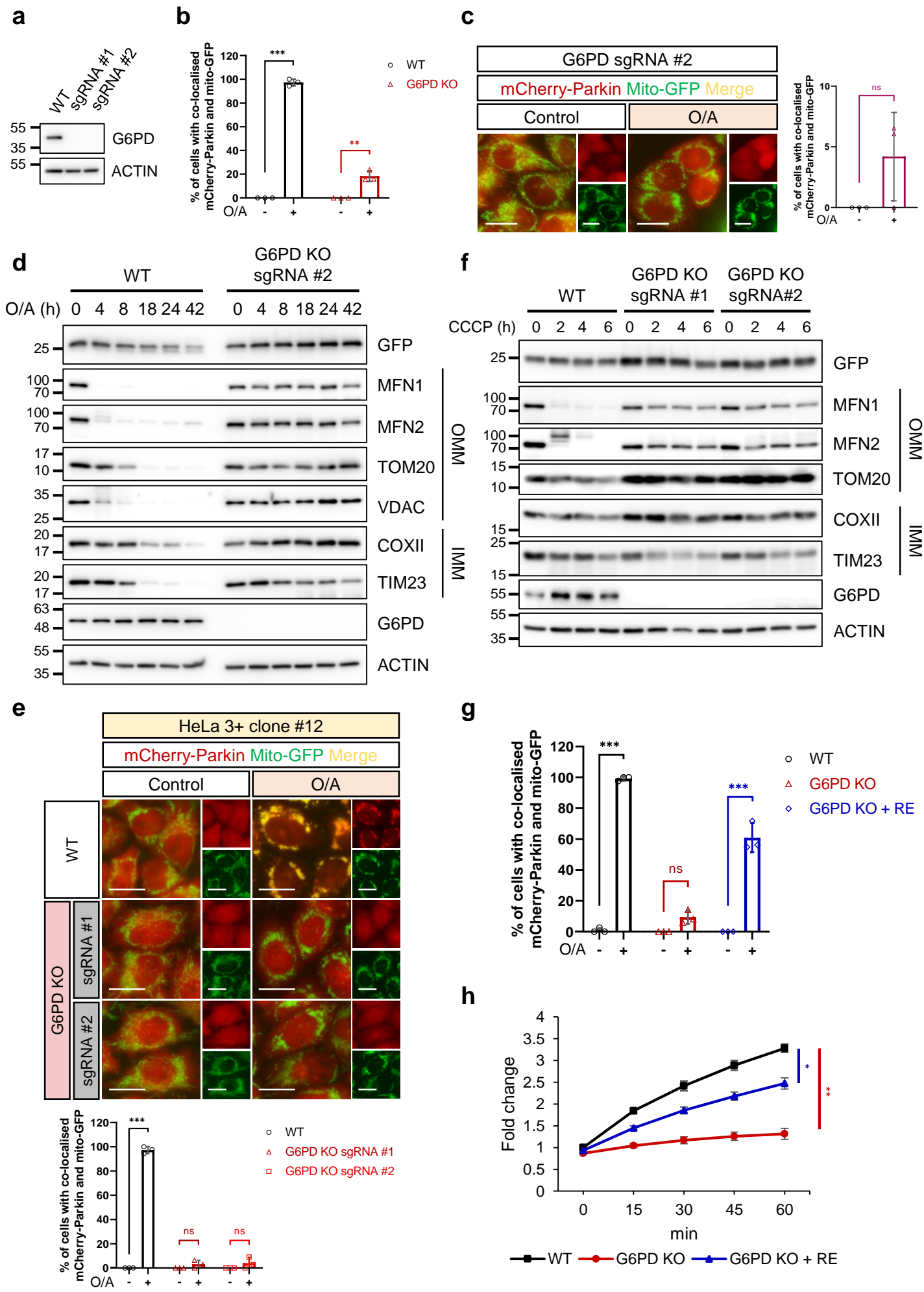
**d**



**e**

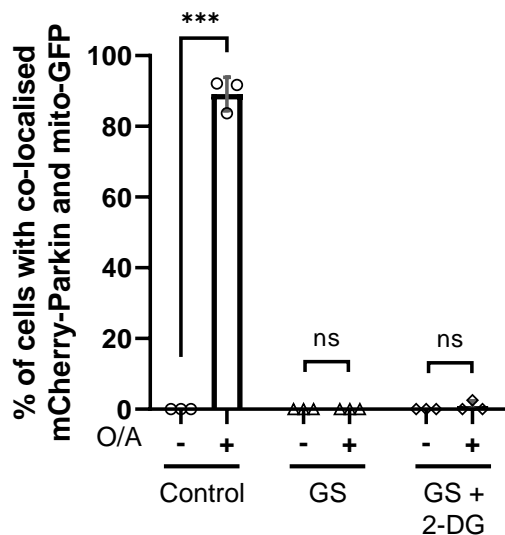
Dataset	p-value	sgRNA count	Fold change
#2	2.75E-07	7	8.0095
#4	0.0015577	6	6.3368

# Supplementary Figure S2

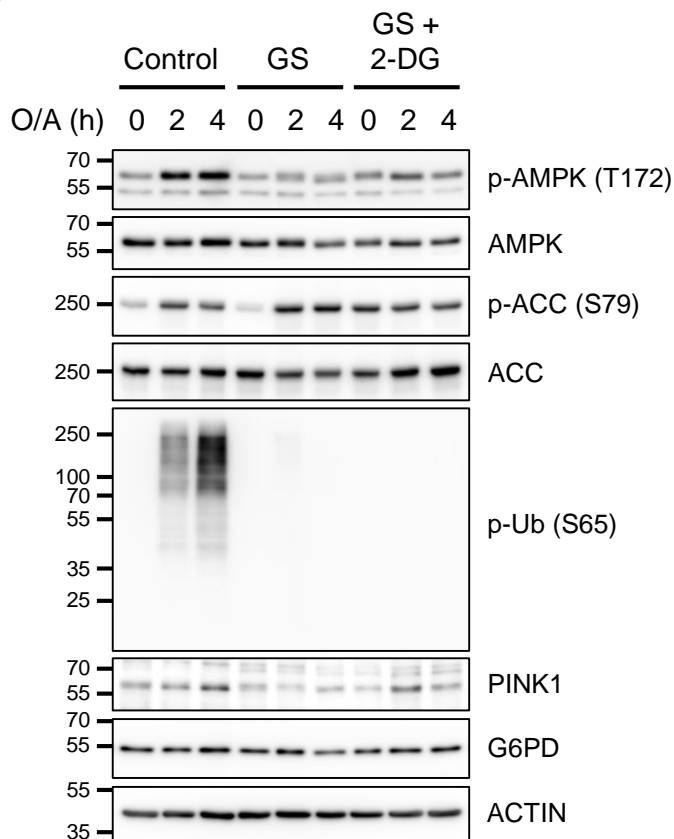


# Supplementary Figure S3

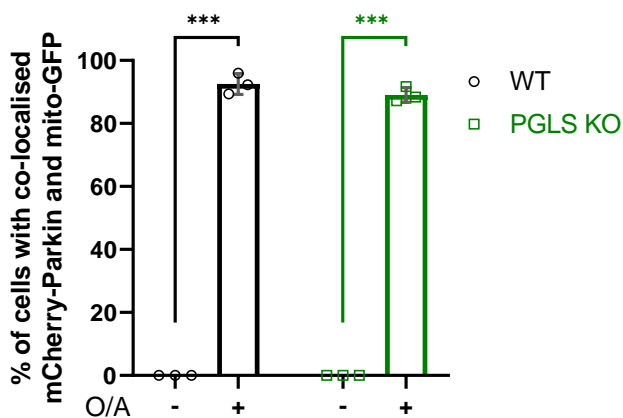
**a**



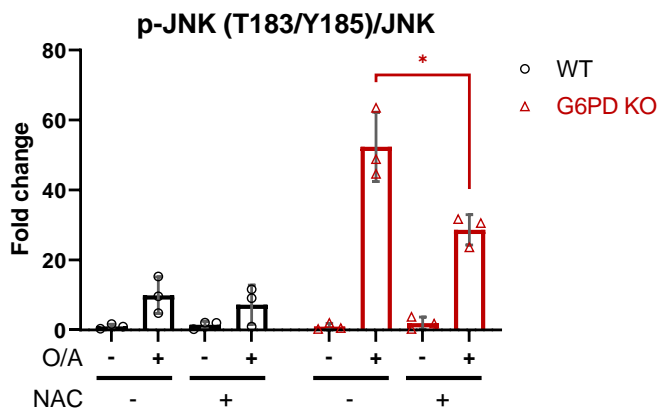
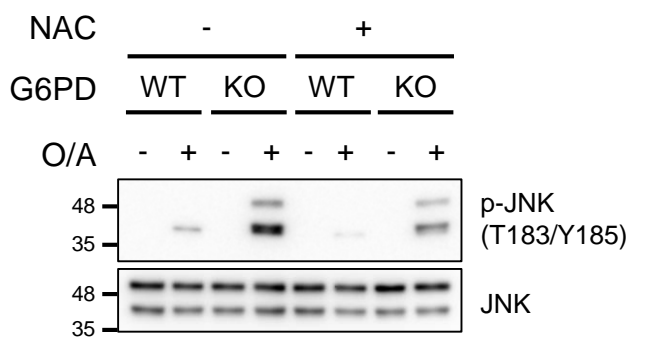
**b**



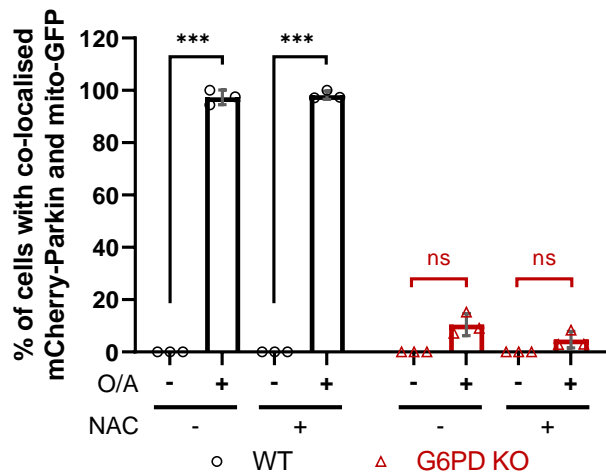
**c**



**e**

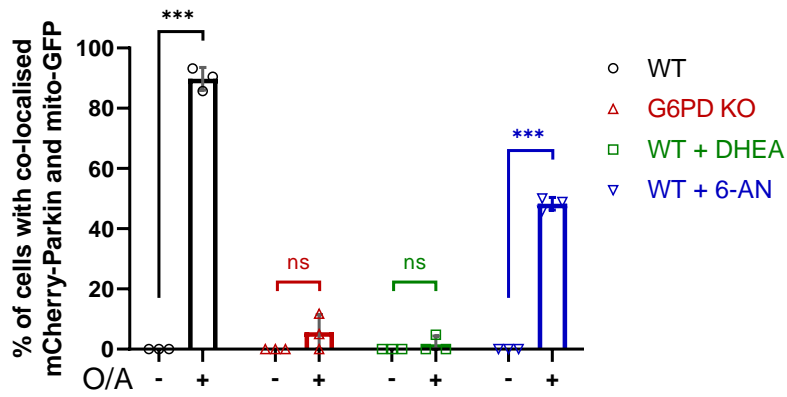


**d**

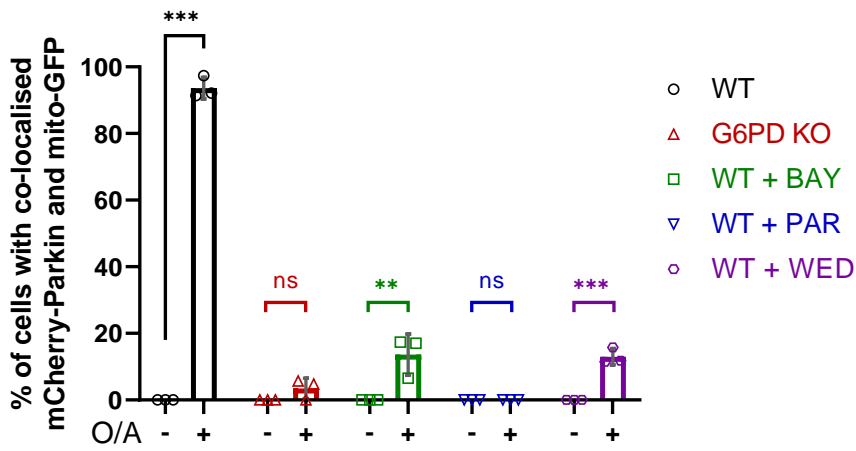


# Supplementary Figure S4

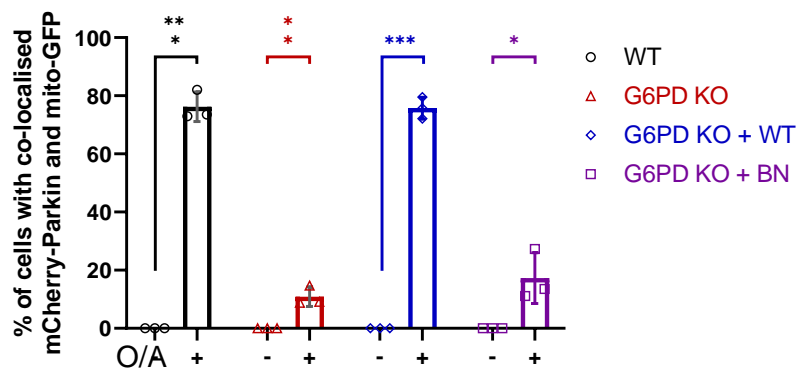
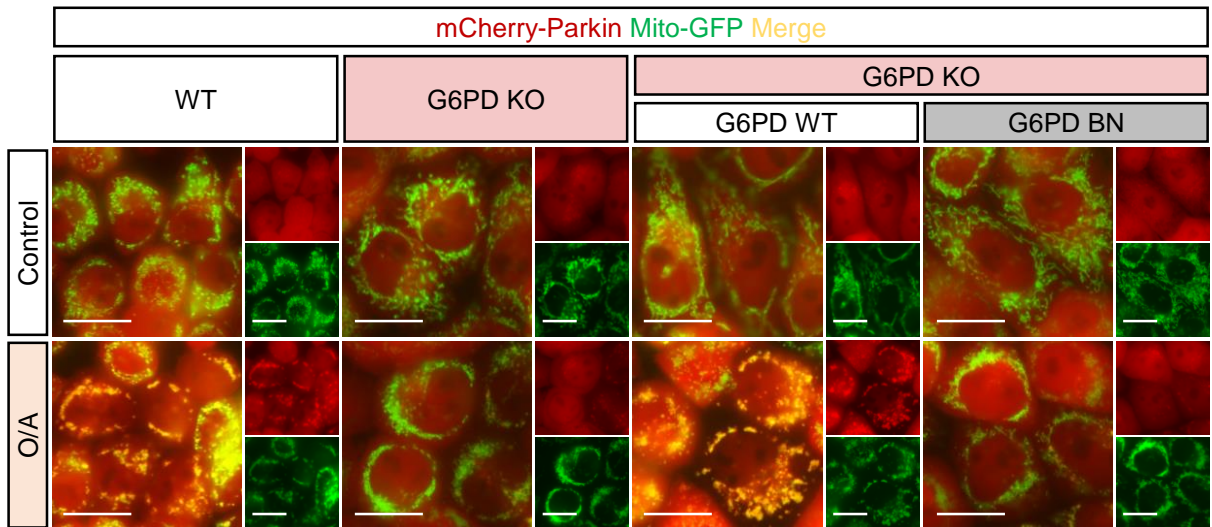
**a**



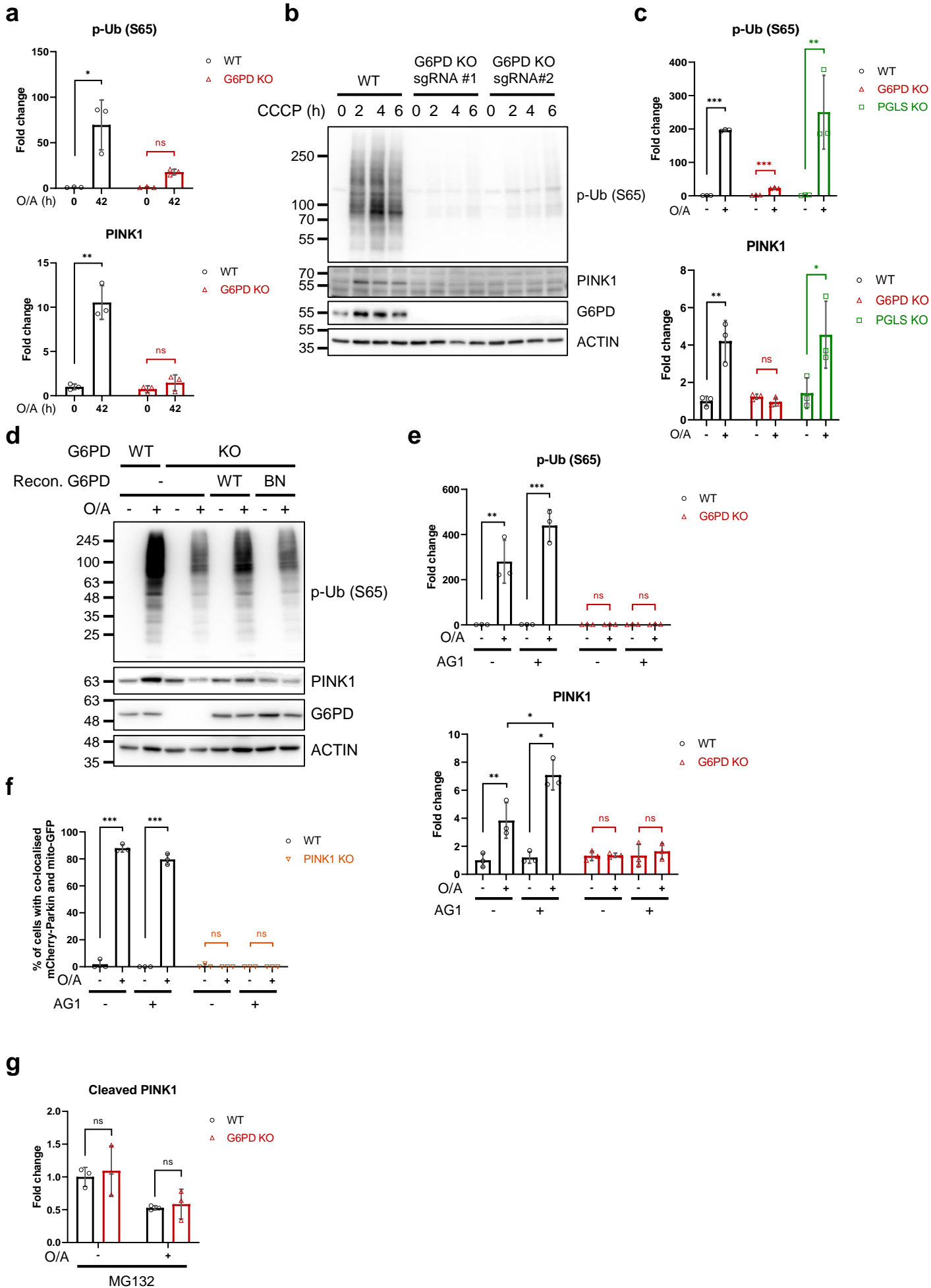
**b**



**c**

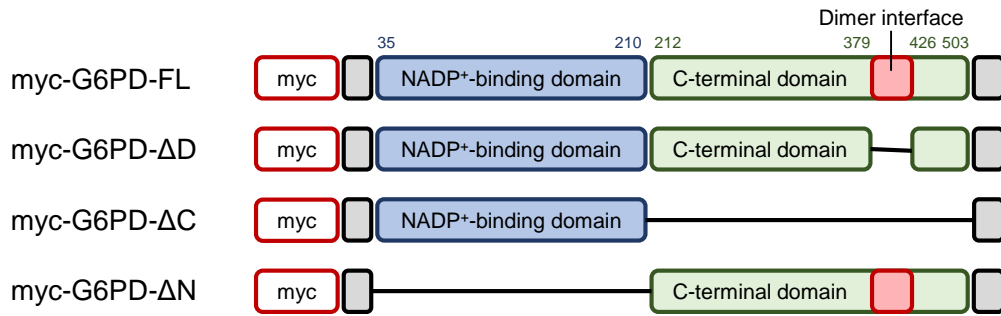


# Supplementary Figure S5

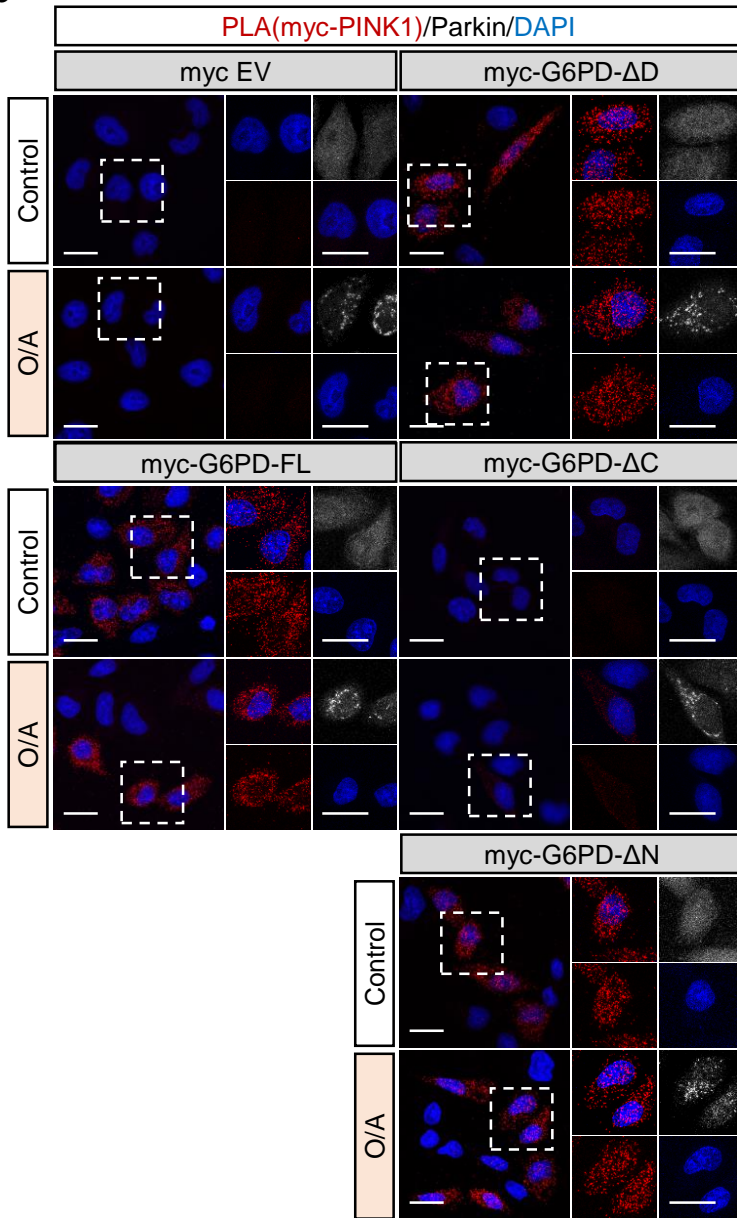


# Supplementary Figure S6

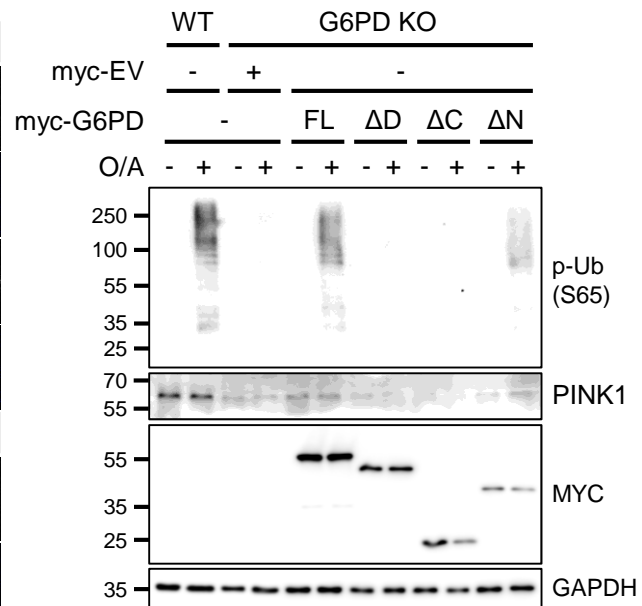
**a**



**b**



**c**



# Supplementary Figure S7

