

TABLE S3**Arsenic-resistant haploid YKO**

ORF Name	Gene name	Biological Process
YLR410W	VIP1	actin cytoskeleton organization and biogenesis
YLL043W	FPS1	arsenite uptake
YCR047C	BUD23	bud site selection
YGR221C	TOS2	budding cell bud growth
YJL184W	YJL184W	cell wall mannoprotein biosynthesis
YLR110C	CCW12	cell wall organization and biogenesis
YIL085C	KTR7	cell wall organization and biogenesis
YNL227C	JJJ1	endocytosis
YGL054C	ERV14	ER to Golgi vesicle-mediated transport
YIR026C	YVH1	glycogen metabolism
YKR042W	UTH1	mitochondrion organization and biogenesis
YGL019W	CKB1	mitotic cell cycle; ion homeostasis
YOR039W	CKB2	mitotic cell cycle; ion homeostasis
YKR072C	SIS2	mitotic cell cycle; salt stress response
YDR432W	NPL3	mRNA export from nucleus
YDR378C	LSM6	mRNA splicing
YMR080C	NAM7	nonsense-mediated mRNA decay
YHR077C	NMD2	nonsense-mediated mRNA decay
YGR072W	UPF3	nonsense-mediated mRNA decay
YDR140W	MTQ2	peptidyl-glutamine methylation
YOR085W	OST3	protein amino acid glycosylation
YDL081C	RPP1A	protein biosynthesis
YDR382W	RPP2B	protein biosynthesis
YLR192C	HCR1	protein biosynthesis; ribosomal RNA processing
YGR085C	RPL11B	protein biosynthesis; structural constituent of ribosome
YDR418W	RPL12B	protein biosynthesis; structural constituent of ribosome
YDL082W	RPL13A	protein biosynthesis; structural constituent of ribosome
YMR142C	RPL13B	protein biosynthesis; structural constituent of ribosome
YKL006W	RPL14A	protein biosynthesis; structural constituent of ribosome
YNL069C	RPL16B	protein biosynthesis; structural constituent of ribosome
YBL027W	RPL19B	protein biosynthesis; structural constituent of ribosome
YGL135W	RPL1B	protein biosynthesis; structural constituent of ribosome
YMR242C	RPL20A	protein biosynthesis; structural constituent of ribosome
YOR312C	RPL20B	protein biosynthesis; structural constituent of ribosome
YBR191W	RPL21A	protein biosynthesis; structural constituent of ribosome
YLR061W	RPL22A	protein biosynthesis; structural constituent of ribosome
YER117W	RPL23B	protein biosynthesis; structural constituent of ribosome
YGL031C	RPL24A	protein biosynthesis; structural constituent of ribosome

YIL052C	RPL34B	protein biosynthesis; structural constituent of ribosome
YDL191W	RPL35A	protein biosynthesis; structural constituent of ribosome
YLR185W	RPL37A	protein biosynthesis; structural constituent of ribosome
YJL189W	RPL39	protein biosynthesis; structural constituent of ribosome
YKR094C	RPL40B	protein biosynthesis; structural constituent of ribosome
YPR043W	RPL43A	protein biosynthesis; structural constituent of ribosome
YBR031W	RPL4A	protein biosynthesis; structural constituent of ribosome
YML073C	RPL6A	protein biosynthesis; structural constituent of ribosome
YLR448W	RPL6B	protein biosynthesis; structural constituent of ribosome
YGL076C	RPL7A	protein biosynthesis; structural constituent of ribosome
YHL033C	RPL8A	protein biosynthesis; structural constituent of ribosome
YNL067W	RPL9B	protein biosynthesis; structural constituent of ribosome
YLR048W	RPS0B	protein biosynthesis; structural constituent of ribosome
YOR293W	RPS10A	protein biosynthesis; structural constituent of ribosome
YDR025W	RPS11A	protein biosynthesis; structural constituent of ribosome
YBR048W	RPS11B	protein biosynthesis; structural constituent of ribosome
YMR143W	RPS16A	protein biosynthesis; structural constituent of ribosome
YDL083C	RPS16B	protein biosynthesis; structural constituent of ribosome
YML024W	RPS17A	protein biosynthesis; structural constituent of ribosome
YDR450W	RPS18A	protein biosynthesis; structural constituent of ribosome
YML026C	RPS18B	protein biosynthesis; structural constituent of ribosome
YNL302C	RPS19B	protein biosynthesis; structural constituent of ribosome
YLR441C	RPS1A	protein biosynthesis; structural constituent of ribosome
YML063W	RPS1B	protein biosynthesis; structural constituent of ribosome
YJL136C	RPS21B	protein biosynthesis; structural constituent of ribosome
YGR118W	RPS23A	protein biosynthesis; structural constituent of ribosome
YPR132W	RPS23B	protein biosynthesis; structural constituent of ribosome
YER074W	RPS24A	protein biosynthesis; structural constituent of ribosome
YHR021C	RPS27B	protein biosynthesis; structural constituent of ribosome
YLR264W	RPS28B	protein biosynthesis; structural constituent of ribosome
YDL061C	RPS29B	protein biosynthesis; structural constituent of ribosome
YOR182C	RPS30B	protein biosynthesis; structural constituent of ribosome
YJR145C	RPS4A	protein biosynthesis; structural constituent of ribosome
YHR203C	RPS4B	protein biosynthesis; structural constituent of ribosome
YPL090C	RPS6A	protein biosynthesis; structural constituent of ribosome
YBR181C	RPS6B	protein biosynthesis; structural constituent of ribosome
YOR096W	RPS7A	protein biosynthesis; structural constituent of ribosome
YBL072C	RPS8A	protein biosynthesis; structural constituent of ribosome
YBR189W	RPS9B	protein biosynthesis; structural constituent of ribosome
YPL125W	KAP120	protein import into nucleus
YDR414C	ERD1	protein retention in ER

YML106W	URA5	pyrimidine base biosynthesis
YPL268W	PLC1	regulation of phosphate metabolism
YKR024C	DBP7	ribosomal large subunit assembly and maintenance
YPL193W	RSA1	ribosomal large subunit assembly and maintenance
YFR001W	LOC1	ribosomal large subunit biogenesis
YBR267W	REI1	ribosomal large subunit biogenesis
YLR068W	FYV7	ribosomal RNA processing
YOL041C	NOP12	ribosomal RNA processing
YGR159C	NSR1	ribosomal RNA processing
YGL246C	RAI1	ribosomal RNA processing
YOR001W	RRP6	ribosomal RNA processing
YHR081W	LRP1	ribosomal RNA processing; snoRNA processing
YKL143W	LTV1	ribosomal small subunit biogenesis; stress response
YPL239W	YAR1	ribosomal small subunit biogenesis; stress response
YLR418C	CDC73	transcriptional regulation
YMR136W	GAT2	transcriptional regulation
YOR123C	LEO1	transcriptional regulation
YLR131C	ACE2	transcriptional regulation specific in G1 phase
YIL128W	MET18	transcriptional regulation; methionine metabolism
YGR097W	ASK10	transcriptional regulation; oxidative stress response
YBL067C	UBP13	unknown
YDL063C	YDL063C	unknown
YDR161W	YDR161W	unknown
YGR131W	YGR131W	unknown
YLR111W	YLR111W	unknown
YLR184W	YLR184W	unknown
YOR309C	YOR309C	unknown
YDR349C	YPS7	unknown
YEL062W	NPR2	urea and L-proline transport
YDR017C	KCS1	vacuole organization and biogenesis

Note: Individual haploid-convertible heterozygote diploid YKO were sporulated and spotted at 10 x serial dilution on solid haploid selection magic medium in the presence of 1 mM of sodium arsenite, which almost completely inhibits growth of an isogenic *hoΔ* mutant (as control). Strains grew in this medium were scored as resistant and listed here. YKO of dubious ORFs that overlap with known genes were excluded from this table.