Supplementary Table 1. Strains used in this study

	Genotype	Reference	Figures
wild-type (BY4742)	*MATα his3Δ1 leu2Δ0 lys2Δ0 ura3Δ0*	Brachmann *et al.*, 1998	1BCD, 2AB, 4AB, 5AB
KB006	*sdt1::KanMX*	Winzeler *et al.*, 1999	4AB
KB007	*isn1::KanMX*	Winzeler *et al.*, 1999	4AB
KB067-1C	*MATα sdt1::KanMX, isn1::KanMX*	This study	4AB
KB034-1B	*Phm8::KanMX*	This study	data not shown
KB048	*Isn1-TAP (HIS3)*	Ref.	6
KB055	*MATα ISN1-TAP (HIS3) npt1::KanMX*	This study	6
PAB046	*MATα pnp1::kanMX4 urh1::NAT*	Belenky *et al.*, 2007	1B
PAB038	*MATα nrk1::HIS3 pnp1::kanMX4 urh1::NAT*	Belenky *et al.*, 2007	1BCD, 2AB, 5A
BY165-1D	*MAT**a**, qns1Δ::kanMX4*	Bieganowski and Brenner, 2004	1D

Supplementary Table 2. NAD^+ metabolites in wild-type and NR/NAR non-salvaging strain *nrk1 urh1 pnp1* (Fig. 2A)

Metabolite	Nam	NA	NR	NAR	NMN	NaMN	NAD+	NaAD	NADH	NADP	NADPH
wild-type	11.1 ± 0.9	<0.5	14.9 ± 4.1	17.6 ± 5.0	93.8 ± 19.8	68.9 ± 12.3	630.7 ± 121.0	5.5 ± 1.1	197.5 ± 35.1	36.5 ± 8.2	1.3 ± 0.3
urh1 pnp1 nrk1	59.1 ± 13.5	<0.5	121.8 ± 10.7	73.3 ± 9.1	36.2 ± 11.8	3.51 ± 0.9	359.7 ± 60.2	<0.1	157.4 ± 44.5	36.0 ± 5.4	3.5 ± 0.5

Supplementary Table 3. Other nucleotides/nucleosides in wild-type and NAR/NR non-salvaging strain *nrk1 urh1 pnp1* (Fig. 2B)

Metabolite	Cyt	Urd	Ino	CMP	UMP	IMP
wild-type	2.6 ± 0.7	16.4 ± 7.4	8.8 ± 1.4	41.6 ± 8.3	115.8 ± 24.6	7.8 ± 0.9
urh1 pnp1 nrk1	2.4 ± 0.4	32.1 ± 7.8	244.8 ± 34.4	56.9 ± 10.9	263.4 ± 38.2	7.8 ± 1.3

Supplementary Table 4. Multiple experiment effects of wild-type, *phm8, isn1, sdt1, isn1 sdt1* mutant strains

	Experiment 1 n=1 Intracellular Conc. (μM)		Experiment 2 n=1 Intracellular Conc. (μM)		Experiment 3 n=2 Intracellular Conc. (μM)		Experiment 4 n=3 Intracellular Conc. (μM)	
	NR	NAR	NR	NAR	NR	NAR	NR	NAR
wild-type	137.1	33.7	48.4	92.2	96.1	23.7	14.9 ± 4.1	17.6 ± 5.0
phm8	71.2	26.4	-	-	-	-	-	-
isn1	29.2	28.6	-	-	20.5	20.1	6.0 ± 1.1	7.8 ± 1.1
sdt1	40.8	4.7	-	-	28.6	3.3	4.0 ± 0.7	4.7 ± 0.5
isn1 sdt1	2.1	0.1	<0.1	<0.02	1.4	0.1	3.5 ± 0.6	3.1 ± 0.5

Supplementary Table 5. NAD^+ metabolites in wild-type, *isn1, sdt1* and *isn1 sdt1* (Fig. 4A)

Metabolite	Nam	NA	NR	NAR	NMN	NaMN	NAD+	NaAD	NADH	NADP	NADPH
wild-type	11.1 ± 0.9	<0.5	14.9 ± 4.1	17.6 ± 5.0	93.8 ± 19.8	68.9 ± 12.3	630.7 ± 121.3	5.5 ± 1.1	197.5 ± 35.1	36.5 ± 8.2	1.3 ± 0.3
isnl	33.5 ± 4.1	<0.5	6.0 ± 1.1	7.8 ± 1.1	101.2 ± 16.7	30.7 ± 4.2	646.8 ± 82.6	<0.1	386.9 ± 50.6	29.3 ± 5.8	4.3 ± 0.2
sdtl	47.6 ± 3.5	<0.5	4.0 ± 0.7	4.7 ± 0.5	76.2 ± 10.2	19.3 ± 2.5	797.3 ± 82.7	<0.1	271.0 ± 30.0	39.2 ± 4.7	7.3 ± 1.0
sdtl isnl	30.1 ± 4.3	<0.5	3.5 ± 0.6	3.1 ± 0.5	72.4 ± 7.0	26.4 ± 1.2	676.5 ± 55.6	<0.1	458.2 ± 31.4	38.4 ± 3.3	4.3 ± 0.9

Supplementary Table 6. Other nucleotides/nucleosides in wild-type, *isn1, sdt1* and *isn1 sdt1* (Fig. 4B)

Metabolite	Cyt	Urd	Ino	CMP	UMP	IMP
wild-type	2.6 ± 0.7	16.4 ± 7.4	8.8 ± 1.4	41.6 ± 8.3	115.8 ± 24.6	7.8 ± 0.9
isnl	1.7 ± 0.2	6.7 ± 1.2	1.1 ± 0.1	52.7 ± 5.0	223.0 ± 20.5	41.6 ± 2.2
sdtl	1.8 ± 0.2	6.1 ± 1.1	8.7 ± 1.1	57.3 ± 4.3	200.3 ± 23.1	5.7 ± 0.8
sdtl isnl	1.5 ± 0.1	3.8 ± 0.3	1.0 ± 0.1	88.3 ± 11.9	238.0 ± 25.6	42.7 ± 2.8