

Supplemental File 1. Student's *t*-test Analyses.

Abbreviations: **n**, biological replicates; **SD**, standard deviation; **SEM**, standard error of the mean; **DF**, degree of freedom; # indicates not statistically significant.

Figure 1D

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
WT	Control	4	1	0	0	6	3.5635	0.0119
	P free	4	452.5	253.4	126.7			
<i>lst8-1</i>	Control	3	3.01	0.29	0.17	4	11.3581	0.0003
	P free	3	1623.4	247.1	142.7			
<i>psr1</i>	Control	3	2.85	1.2	0.69	4	1.4007	0.2339 [#]
	P free	3	5.02	2.4	1.38			
WT	P free	3	452.5	253.4	146.3	4	5.7310	0.0046
<i>lst8-1</i>	P free	3	1623.4	247.1	142.7			

Figure 2B upper panel

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
WT	Control 0h	3	1	0	0	4	2.1651	0.0963 [#]
	Control 2h	3	1.15	0.12	0.07			
WT	Rap 0h	3	1.6	0.43	0.25	4	4.8389	0.0084
	Rap 2h	3	0.36	0.11	0.06			
WT	AZD 0h	3	1.42	0.39	0.23	4	5.3227	0.0060
	AZD 2h	3	0.19	0.09	0.05			
WT	Torin 0h	3	1.3	0.15	0.09	4	7.4301	0.0018
	Torin 2h	3	0.39	0.15	0.09			

Figure 2B bottom panel

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
<i>rap2</i>	Control 0h	3	1	0	0	4	0.8340	0.4512 [#]
	Control 2h	3	0.87	0.27	0.16			
<i>rap2</i>	Rap 0h	3	1.34	0.41	0.24	4	0.0000	1 [#]
	Rap 2h	3	1.34	0.44	0.26			
<i>rap2</i>	AZD 0h	3	1.10	0.31	0.18	4	4.7356	0.0091
	AZD 2h	3	0.17	0.14	0.08			
<i>rap2</i>	Torin 0h	3	0.81	0.19	0.11	4	6.6119	0.0027
	Torin 2h	3	0.06	0.05	0.03			

Figure 2C

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
WT	Control	3	1.00	0.00	0.000	4	8.3546	0.0011
<i>lst8-1</i>		3	0.18	0.17	0.098			
WT	Control	3	1.00	0.00	0.000	4	2.3864	0.0755 [#]
<i>lst8-1:</i> <i>pOL-</i> <i>LST8</i>		3	4.10	2.25	1.299			

Figure 2D

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
WT	Control 0h	3	1	0	0	4	1.4846	0.2128 [#]
	Control 8h	3	1.06	0.07	0.04			
WT	Control 0h	3	1	0	0	4	1.2509	0.2791 [#]
	Control 24h	3	0.87	0.18	0.103			
WT	P free 0h	3	1	0	0	4	3.5724	0.0233
	P free 8h	3	0.67	0.16	0.092			
WT	P free 0h	3	1	0	0	4	3.8971	0.0176
	P free 24h	3	0.55	0.20	0.115			

Figure 3D

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
WT	Control	3	1	0	0	4	15.0374	0.0001
	P free	3	2.91	0.22	0.13			
<i>Ist8-1</i>	Control	3	0.94	0.8	0.47	4	3.6382	0.0220
	P free	3	3.63	1	0.58			
WT	P free	3	1.75	0.5	0.27	4	5.0013	0.0075
<i>Ist8-1</i>	P free	3	9.09	2.5	1.44			

Figure 3E

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
WT	Control	3	1	0	0	4	22.516	<0.0001
	P free	3	0.22	0.06	0.034			
<i>psr1</i>	Control	3	0.60	0.13	0.075	4	4.3550	0.0121
	P free	3	0.96	0.06	0.034			
WT	P free	3	1	0	0	4	5.3294	0.0060
<i>psr1</i>	P free	3	0.60	0.13	0.075			

Figure 4B

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
WT	Control	440	0.37	0.08	0.003	858	70.784	<0.0001
	P free	420	2.38	0.59	0.028			
<i>Ist8-1</i>	Control	455	1.55	0.32	0.015	913	124.73	<0.0001
	P free	460	7.52	0.97	0.045			
<i>Ist8-1: pOL-LST8</i>	Control	350	0.82	0.19	0.010	843	47.682	<0.0001
	P free	495	2.70	0.76	0.032			

Figure 4C

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
WT	Control	3	0.81	0.06	0.034	4	20.416	<0.0001
<i>Ist8-1</i>		3	1.66	0.04	0.023			
WT	P free	3	1.09	0.02	0.011	4	45.862	<0.0001
<i>Ist8-1</i>		3	14.34	0.50	0.288			

Supplemental Figure 3

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
WT	Rap 0h	3	1	0	0	4	1.5011	0.2077 [#]
	Rap 4h	3	1.13	0.15	0.087			
WT	Rap 0h	3	1	0	0	4	6.3953	0.0031
	Rap 8h	3	5.80	1.3	0.751			
<i>psr1</i>	Rap 0h	3	3.45	0.32	0.119	4	2.3633	0.0774 [#]
	Rap 8h	3	2.64	0.51	0.289			
<i>psr1</i>	Rap 0h	3	3.45	0.32	0.185	4	4.6906	0.0094
	Rap 8h	3	18.37	5.5	3.176			

Supplemental Figure 4 *PSR1* gene

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
WT	Rap 0h	3	1	0	0	4	15.6924	0.0001
	Rap 8h	3	5.53	0.5	0.289			

Supplemental Figure 4 *PHOX* gene

Strain	Conditions	n	Mean	SD	SEM	DF	t-test	P-value
WT	Rap 0h	3	1	0	0	4	0.8481	0.3968 [#]
	Rap 8h	3	1.52	0.92	0.549			