Supplementary Material

Table 3. Transcriptomic effects of VapBC6 deficiency.

		q-RT-PCR cycle number					
		80°C		90°C[a]		95°C	
ORF	**Gene annotation**	***vapB6::lacS***	**Wild Type**	***vapB6::lacS***	**Wild Type**	***vapB6::lacS***	**Wild Type**
SSO0071	DNA-directed RNA polymerase, subunit D (*rpoD*)	18.31 ±0.06	18.23 ±0.31 (-1.0)[b]	12.35 ±0.04	12.14 ±0.04 (-1.2)	37.53 ±1.44	33.48 ±1.15 (-16.6)
SSO0199	S-adenosyl-methionine synthetase (*metK*)	12.24 ±0.21	13.11±0.10 (+1.8)	13.14 ±0.08	12.87 ±0.08 (-1.2)	20.16 ±7.52	20.24 ±6.83 (+1.0)
SSO0271	Proteasome-activating nucleotidase	13.67 ± 0.0	12.85 ±0.09 (-1.77)	15.61 ±0.02	15.83 ±0.02 (1.1)	19.32 ±0.12	19.73 ±0.33 (+1.3)
SSO0412	Translation initiation factor IF-2 gamma subunit	16.51 ±0.15	16.28 ±0.48 (-1.2)	17.01 ±0.10	16.8 ±0.10 (-1.15)	23.13 ±0.22	19.84 ±0.20 (-9.8)
SSO0534	Acetyl-CoA c-acetyltransferase (*acaB-1*)	18.76 ±0.41	20.08 ±0.21 (+2.5)	20.01 ±0.15	19.84 ±0.15 (-1.1)	23.58 ±0.53	19.62 ±0.07 (-15.6)
SSO0698	30S ribosomal protein S5P	11.94 ±0.07	11.67 ±0.01 (-1.2)	14.08 ±0.34	13.28 ±0.34 (-1.7)	12.9 ±0.51	13.51 ±0.11 (+1.5)
SSO0736	Exosome complex RNA-	10.5 ±0.02	10.29 ±0.06 (-1.2)	ND[c]	ND	12.9 ±0.05	13.51 ±0.02 (+1.5)

	binding protein 1						
SSO0965	ATP-dependent helicase	13.33 ±0.07	14.35 ±0.16 (+2.0)	14.01 ±0.15	12.52 ±0.15 (-2.8)	17.24 ±0.10	17.07 ±0.03 (-1.1)
SSO1274	Oligo/dipeptide transport, permease protein (*dppB-1*)	23.14 ± 0.07	27.53 ±1.80 (+21)	17.02 ±0.47	17.63 ±0.47 (+1.52)	ND	22.67 ±0.76
SSO1589	Transcriptional regulator (*gntR*)	26.74 ± 0.09	26.54 ±0.05 (-1.1)	28.69 ±0.40	24.24 ±0.40 (-4.5)	17.02 ±0.11	15.21 ±0.03 (-3.5)
SSO2506	Transcriptional regulator (*tetR*)	23.24 ±0.20	25.35 ±0.05 (+4.3)	17.49 ±0.12	17.36 ±0.12 (-1.1)	14.26 ±0.63	16.17 ±0.06 (+3.8)
SSO2911	Phosphoadenosine phosphosulfate reductase (*cysH*)	17.11 ±0.24	15.91 ±1.47 (-2.3)	15.61 ±0.50	15.28 ±0.50 (-1.3)	18.39 ±0.33	19.41 ±0.15 (+2.0)
SSO0951	Transcription factor (*tbp*)	13.24 ±0.08	13.2 ±0.09 (1)	14.43 ±0.44	14.47 ±0.20 (1)	13.33 ±0.49	13.36 ±0.13 (1)

[a.] Cells were heat shocked for 5 min after culture temperatures had reached 90°C or 95°C.

[b.] Values in parentheses indicate the fold difference in transcript abundance between the *vapB6::lacS* disruption mutant and wild type at the same temparature.

[c.] Wild type (PBL2025), *vapB6::lacS* (PBL2066). [d.] ND = no data.

Table 4. List of *Sulfolobus solfataricus* PCR primers used in this study.

Primer name	Primer sequence
7S-F	5’ ATGCGGGCACCAGTAACTCCTACCC
7S-R	5’ GGCGGTCATGGGCTTTCTCTCCGGA
NcoICtermVapC6-F	5’ ATGCCCATGGAGATGGTAATAAAGAATGCTAC
NcoICtermVapC6-F	5’ ATGCCCATGGAGATGGTAATAAAGAATGCTAC
NotIhisC6-F	5’ ATGCGCGGCCGCGGAATTGTGAGCGGATAACAATTCC
NotIhisC6-R	5’ ATGCGCGGCCGCGGGCTTTGTTAGCAGCCGGATC
NotIVapBout-F	5’ ATCGGCGGCCGCGGGGAGAGAATCTTTGTTCCTATACG
NotIVapCout-R	5’ ATGCGCGGCCGCGGAGCTCTTTAAGCATAGGCTC
SacII*malA*-F	5’ ATGCCCGCGGGGTTTAAACTTAACGTTATGTAG
SacII*malA*-R	5’ ATGCCCGCGGGGAATAGTTAAGTCCTTGGAGTACG
SbfIVapC6-R	5’ ATGCCCTGCAGGCCTTACGCTCCACTTCATCTAGCCC
SbfVapB6out-R	5’ ATGCCCTGCAGGCCTCTTCTATAGTTCAACTACGAC
SbfVapB6out-R	5’ ATGCCCTGCAGGCCTCTTCTATAGTTCAACTACGAC
TetR-F	5’ GGTAGACGCTACATTGACTGAG
TetR-R	5’ GCTTCAGTGGTTATGGCTAACG
Vap6B-*lacS*-F	5’ CTATGTACCAGAGATAGAAACGCTATCCTCTATTCTAAGATTCTC
Vap6B-*lacS*-R	5’ CATATTATAATACACGTATACGGGAAGGTATGAAAGTATTGCAATC
Vap6B-LF	5’ GTATAGAGGAGTCCTTAATTAACC
Vap6B-LR-*lacS*	5’ GAGAATCTTAGAATAGAGGATAGCGTTTCTATCTCTGGTACATAG
Vap6B-RF-*lacS*	5’ GATTGCAATACTTTCATACCTTCCCGTATACGTGTATTATAATATG
Vap6B-RR	5’ CAGCCAGTGCAATATAAAGTGAATC
VapB6delOL-F	5’ CTACAATTTTAATCTATGTACCAGCAGATTTGGTGAGGGAAGATAGGG
VapB6delOL-F	5’ CTACAATTTTAATCTATGTACCAGCAGATTTGGTGAGGGAAGATAGGG
VapB6delOL-R	5’ CCCTATCTTCCCTCACCAAATCTGCTGGTACATAGATTAAAATTGTAGC
VapB6delOL-R	5’ CCCTATCTTCCCTCACCAAATCTGCTGGTACATAGATTAAAATTGTAGC
VapB6RT-F	5’ CGTGTATTATAATATGAAAACCG
VapB6RT-R	5’ GTTTGGAGGATTTCATTAATCTTC
VapBC6RT-F	5’ GCCAGAAACTAAGTCAAATAGTGC
VapBC6RT-R	5’ GTTAATACAGCTTTCTTCCATAC
VapC6delOL-F	5’ GAGACATTAGACTTCGCATTAGTGGCTAAAAAGTACGTCATCTCTGAGC
VapC6delOL-R	5’ GCTCAGAGATGACGTACTTTTTAGCCACTAATGCGAAGTCTAATGTCTC
VapC6RT-F	5’ CTGGGAAAGATGTAATTAAGGCAA
VapC6RT-R	5’ CTCCCCTTACATTCAGCCAGTGC

XhoCtermVapC6-R	5’ ATGCCTCGAGTATGAGCTCAGAGATGACGTAC
XhoCtermVapC6-R	5’ ATGCCTCGAGTATGAGCTCAGAGATGACGTAC
XmaIVapC6-F	5’ ATGCCCCGGGCGATCTGGTAAGTCTACTTTGGC
XmaVapB6out-F	5’ ATGCCCCGGGCCGCTATGAATAAGTCTTTAATTG
XmaVapB6out-F	5’ ATGCCCCGGGCCGCTATGAATAAGTCTTTAATTG
0990-BamHI-F	5’ AGTCCGCGGATCCATGAGAGTTTCCTCCATAGGAAATG
0990-Del-R	5’ ATTCAAGGGTTACCTTATTTTTTGCCTTAAGCCTTCCAAGTTTCTATC
990-Del-F	5’ CAAAAAATAAGGTAACCCTTGAATGATCCCCTTAGACCAGTGTGAGGA
0990-BamHI-R	5’ AGTCCGCGGATCCCTCATACTTATCATGAATCTCAAAG
SSO1494-F	5’ GCTTCATATGGTAATAAAGAATGCTAC
SSO1494-R	5’ TATACTCGAGATTATTATCCCTATCTTCCCTCA
SSO1493-F	5’ GCTTCATATGAAAGACGCTGAGACATTAG
SSO1493-R	5’ TATACTCGAGTATGAGCTCAGAGATGACGTACTTT
SSO1274F-HindIII	5’ AGTCAAGCTTATGGGTTTTACCACATATATG
SSO1274R-BamHI	5’ AGTCGGATCCCTACTCACCAACTTTTATCC
SSO2506F-HindIII	5’ AGTCAAGCTTGTGGTCCAAATGTATAGGTACC
SSO2506R-BamHI	5’ AGTCGGATCCCTACTTAGGTCTCAGCATATTTTC
SSO1494F-HindIII	5’ AGTCAAGCTTATGGTAATAAAGAATGCTAC
SSO1494R-BamHI	5’ AGTCGGATCCTCAATTATTATCCCTATCTTCC
SSO7Sr-F-HindIII	5’ AGTCAAGCTTGGTCAGGGAGGGTGGGGGATCTCG
SSO7Sr-R-BamHI	5’ AGTCGGATCCTGGCTAGGCGACCTCGGCAC