

Supplementary information:

Fine-tuning of transcription in *Pichia pastoris* using dCas9 and RNA scaffolds

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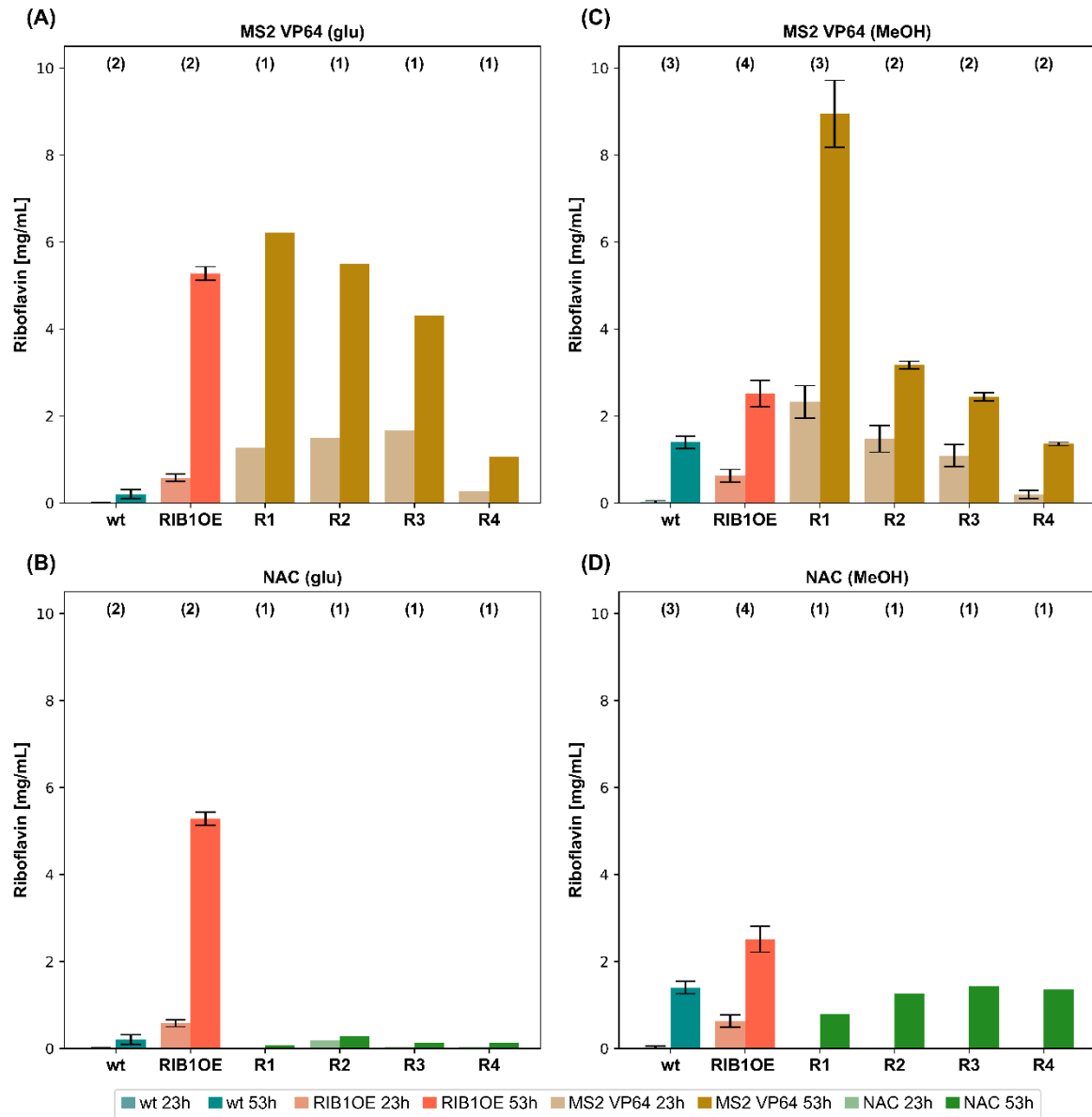


Figure S1: Riboflavin concentrations in the supernatants after 23 and 53 hours of (A) MS2 VP64 and (B) NAC strains cultivated using glucose surplus conditions. Riboflavin concentrations measured after 23 and 53 hours of (C) MS2 VP64 and (D) NAC strains cultivated using MeOH conditions. The number of biological replicates is indicated on top of each bar. Error bars indicate the standard deviation of the biological replicates.

Table S1: Summary of plasmids submitted to Addgene.

Nr	Name	Plasmid	Int. Locus	Addgene number
1	BB1 dCAS9	BB1_23_dCAS9(3xFLAG_SV40NLS)		161478
2	BB1 MS2 VP64	BB1_23_MS2bind_VP64_SV40NLS		161479
3	BB1 MS2 (NAC)	BB1_23_MS2bind_only_SV40NLS		161480
4	THI VP64 pALD4 T-	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pALD4_THI11_T-_gRNA_MS2	RGI	161481
5	THI VP64 pALD4 T1	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pALD4_THI11_T1_gRNA_MS2	RGI	161482
6	THI VP64 pALD4 T2	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pALD4_THI11_T2_gRNA_MS2	RGI	161483
7	THI VP64 pALD4 T3	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pALD4_THI11_T3_gRNA_MS2	RGI	161484
8	THI VP64 pALD4 T4	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pALD4_THI11_T4_gRNA_MS2	RGI	161485
9	THI VP64 pALD4 T5	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pALD4_THI11_T5_gRNA_MS2	RGI	161486
10	THI VP64 pGAP T-	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pGAP_THI11_T-_gRNA_MS2	RGI	161487
11	THI VP64 pGAP T1	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pGAP_THI11_T1_gRNA_MS2	RGI	161488
12	THI VP64 pGAP T2	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pGAP_THI11_T2_gRNA_MS2	RGI	161489
13	THI VP64 pGAP T3	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pGAP_THI11_T3_gRNA_MS2	RGI	161490
14	THI VP64 pGAP T4	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pGAP_THI11_T4_gRNA_MS2	RGI	161491
15	THI VP64 pGAP T5	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pGAP_THI11_T5_gRNA_MS2	RGI	161492
16	RIB VP64 R1	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pGAP_RIB1_R1_gRNA_MS2	RGI	161493
17	RIB VP64 R2	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pGAP_RIB1_R2_gRNA_MS2	RGI	161494
18	RIB VP64 R3	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pGAP_RIB1_R3_gRNA_MS2	RGI	161495
19	RIB VP64 R4	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pGAP_RIB1_R4_gRNA_MS2	RGI	161496
20	THI ONLY pALD4 T-	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_VP64_SV40NLS_pGAP_THI11_T-_gRNA_MS2	RGI	161497
21	THI ONLY pALD4 T1	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pALD4_THI11_T1_gRNA_MS2	RGI	161498
22	THI ONLY pALD4 T2	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pALD4_THI11_T2_gRNA_MS2	RGI	161499
23	THI ONLY pALD4 T3	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pALD4_THI11_T3_gRNA_MS2	RGI	161500
24	THI ONLY pALD4 T4	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pALD4_THI11_T4_gRNA_MS2	RGI	161501
25	THI ONLY pALD4 T5	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pALD4_THI11_T5_gRNA_MS2	RGI	161502

26	THI ONLY pGAP T-	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pGAP_THI11_T-_gRNA_MS2	RGI	161503
27	THI ONLY pGAP T1	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pGAP_THI11_T1_gRNA_MS2	RGI	161504
28	THI ONLY pGAP T2	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pGAP_THI11_T2_gRNA_MS2	RGI	161505
29	THI ONLY pGAP T3	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pGAP_THI11_T3_gRNA_MS2	RGI	161506
30	THI ONLY pGAP T4	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pGAP_THI11_T4_gRNA_MS2	RGI	161507
31	THI ONLY pGAP T5	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pGAP_THI11_T5_gRNA_MS2	RGI	161508
32	RIB ONLY R1	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pGAP_RIB1_R1_gRNA_MS2	RGI	161509
33	RIB ONLY R2	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pGAP_RIB1_R2_gRNA_MS2	RGI	161510
34	RIB ONLY R3	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pGAP_RIB1_R3_gRNA_MS2	RGI	161511
35	RIB ONLY R4	BB3rN_pTEF2_dCAS9(3xFLAG_SV40NLS)_pPOR1_MS2bind_only_SV40NLS_pGAP_RIB1_R4_gRNA_MS2	RGI	161512