

Supplementary Table 2. ArcA-associated regions under nitrate respiratory conditions identified by ChIP-chip analysis and its regulatory effect on the target operons determined by expression profiles.

This table summarizes the results of ChIP-chip experiments to determine the genome-wide locations of DNA targets for ArcA binding in exponential phase *E. coli* cells growing in strictly anaerobic minimal media with the addition of 20mm KNO₃. First and second columns indicate identified ArcA-binding peaks (Start: left-end peak position, End: right-end peak position). The third column indicates the log₂ ratio of each ArcA-binding peak.

Peak start	Peak end	Occupancy	Strand	Operon	Regulation	Regulon DB
22	205	2.63	+	[thrA, thrB, thrC, thrL]	Repression	
21121	21465	5.86	+	[fkpB, ileS, ispH, lspA, ribF]	Activation	
21121	21465	5.86	-	[rpsT]	Activation	
29489	30064	8.02	+	[carA, carB]	Activation	
41664	42181	7.87	-	[caiA, caiB, caiC, caiD, caiE, caiT]	Activation	Known
83468	83931	9.42	-	[leuA, leuB, leuC, leuD, leuL]	Activation	
127633	128251	6.51	+	[lpd]	Repression	Known
131272	131772	7.19	+	[acnB]	Repression	Known
131272	131772	7.19	-	[yach]	N/D	
243079	243744	8.38	-	[fadE]	Repression	Known
243079	243744	8.38	+	[ipcA]	N/D	
367853	368107	5.65	-	[lacl, mhpR]	Repression	
367853	368107	5.65	+	[mhpA, mhpB, mhpC, mhpD, mhpE, mhpF]	Repression	
450221	451684	77.87	-	[cyoA, cyoB, cyoC, cyoD, cyoE]	Repression	Known
727885	728489	5.78	-	[kdpA, kdpB, kdpC, kdpF]	N/D	
727885	728489	5.78	+	[ybfA]	Activation	
753888	754426	19.63	+	[sdhA, sdhB, sdhC, sdhD, sucA, sucB, sucC, sucD]	Repression	Known
753888	754426	19.63	-	[gltA]	Repression	Known
769905	770563	14.61	+	[cydA, cydB]	Activation	Known
815916	816683	13.7	+	[moaA, moaB, moaC, moaD, moaE]	Repression	
815916	816683	13.7	-	[ybhK]	Activation	
840676	841126	7.62	-	[fiu, mcbA]	Repression	
857915	858999	49.88	-	[ybiU]	Repression	
862364	862943	8.59	-	[ybiW, ybiY]	N/D	
862364	862943	8.59	+	[fsaA]	Activation	
865743	866455	13.12	+	[gsiA, gsiB, gsiC, gsiD, iaaA]	Activation	
877089	877801	7.1	+	[bssR]	Repression	
877089	877801	7.1	-	[rimO]	Activation	
892368	893009	24.98	+	[potF, potG, potH, potI]	Repression	
917844	918319	7.05	+	[macA, macB]	Repression	
917844	918319	7.05	-	[ybjX]	Activation	
924976	925842	13.99	-	[infA, serW]	Activation	
930102	930635	12.21	-	[cydC, cydD]	Activation	Known
953235	954107	10.37	-	[focA, pflB]	Repression	Known
989551	989881	8.78	+	[pepN]	Repression	
989551	989881	8.78	-	[pncB]	N/D	
1014840	1015615	8.1	+	[rmf]	N/D	
1030559	1031021	8.71	-	[serT, yccA]	N/D	
1072946	1073509	12.52	-	[rutA, rutB, rutC, rutD, rutE, rutF, rutG]	N/D	Known
1072946	1073509	12.52	+	[rutR]	N/D	
1078134	1079013	11.09	+	[putP]	N/D	
1084046	1084376	4	+	[phoH]	N/D	
1145843	1146734	14.94	+	[fabD, fabG, fabH, plsX, psrD, rpmF, yceD]	Activation	
1150735	1151219	7.77	+	[acpP, fabF]	Activation	
1156739	1157531	9.54	+	[ptsG]	Activation	Known
1165276	1165541	3.22	+	[ndh]	N/D	Known
1194146	1194605	9.34	+	[icd]	Repression	Known
1194146	1194605	9.34	-	[nudJ, rluE]	N/D	

1232163	1232721	9.94	-	[dsbB]	Activation	
1358699	1359349	6.29	+	[puuD, puuR]	Repression	Known
1358699	1359349	6.29	-	[puuA]	N/D	Known
1386238	1387113	6.73	-	[tpx]	Repression	Known
1386238	1387113	6.73	+	[ycjG]	N/D	
1451672	1452114	4.29	+	[paaA, paaB, paaC, paaD, paaE, paaF, paaG, paaH, paal, paaJ, paaK]	Repression	
1451672	1452114	4.29	-	[maoC]	N/D	
1485851	1486522	7.2	+	[aldA]	Repression	Known
1520872	1521293	5.53	+	[yncE]	Repression	
1520872	1521293	5.53	-	[yncD]	Repression	
1608517	1608984	9.41	-	[uxaB]	N/D	
1675706	1676221	7.42	-	[pntA, pntB]	Activation	
1679542	1680354	9	-	[ydgC]	Repression	
1679542	1680354	9	+	[rstA, rstB]	Activation	
1686396	1686946	3.93	-	[fumA]	Repression	Known
1686396	1686946	3.93	+	[manA]	N/D	
1829936	1830386	10.65	-	[astA, astB, astC, astD, astE]	Repression	
1829936	1830386	10.65	+	[xthA]	Repression	
1860590	1861003	9.56	+	[gapA, yeaD]	Repression	
1860590	1861003	9.56	-	[msrB]	Repression	
1887394	1888236	11.08	-	[fadD]	Repression	Known
1976263	1976504	6.64	-	[flhC, flhD]	Activation	
1977375	1977654	8.13	+	[uspC]	N/D	
1977375	1977654	8.13	-	[insA-5, insB-5]	N/D	
2238472	2238897	6.42	-	[mglA, mglB, mglC]	Repression	
2241347	2241935	5.71	+	[yeiG]	N/D	
2241347	2241935	5.71	-	[folE, yeiB]	Repression	
2244605	2245268	8.28	-	[cirA]	Repression	
2263985	2264339	5.96	+	[yeiQ]	Repression	
2276039	2276443	10.69	-	[yejG]	Repression	
2280151	2280914	8.61	+	[rplY]	Activation	
2284173	2284656	5.86	+	[proL]	N/D	
2304509	2304868	4.77	-	[mqo]	Repression	
2310743	2311405	16.34	+	[micF]	Activation	
2310743	2311405	16.34	-	[ompC]	Activation	
2384706	2385289	9.64	+	[yfbM]	N/D	
2402959	2403487	14.09	-	[nuoA, nuoB, nuoC, nuoE, nuoF, nuoG, nuoH, nuol, nuoJ, nuoK, nuoL, nuoM, nuoN]	Repression	Known
2425948	2426273	4.79	-	[argT, hisJ, hisM, hisP, hisQ]	Repression	
2458400	2458764	5.48	-	[fadI, fadJ]	Repression	Known
2496347	2496888	12.8	+	[ypdA, ypdB, ypdC]	Activation	
2496347	2496888	12.8	-	[yfdZ]	N/D	
2510813	2511330	7.2	-	[mntH]	Repression	
2510813	2511330	7.2	+	[nupC]	Activation	
2561187	2561595	4.1	+	[yffQ, yffR]	N/D	
2631812	2632525	13.65	+	[xseA]	Activation	
2631812	2632525	13.65	-	[guaA, guaB]	N/D	
2642597	2643118	10.23	-	[ndk]	Repression	
2661207	2661749	6.87	+	[suhB]	N/D	
2661207	2661749	6.87	-	[trmJ]	N/D	
2753425	2754054	12.09	+	[ssrA]	N/D	
2786581	2787102	9.1	+	[csiD, gabD, gabP, gabT, lhgO]	Repression	
2922199	2922704	9.25	-	[csrB, truC, yqcA, yqcC]	Repression	
2940499	2940974	8.93	-	[gcvA]	N/D	
2940499	2940974	8.93	+	[gcvB]	Activation	
3125852	3126560	9.5	+	[glcC]	Repression	

3125852	3126560	9.5	-	[glcA, glcB, glcD, glcE, glcF, glcG]	Repression	Known
3144302	3144752	3.03	-	[hybA, hybB, hybC, hybD, hybE, hybF, hybG, hybO, vqhW]	Activation	
3208503	3209120	9.59	-	[ygjD]	N/D	
3208503	3209120	9.59	+	[dnaG, rpoD, rpsU]	Activation	
3216816	3217970	56.79	+	[ygjG]	N/D	
3216816	3217970	56.79	-	[aer]	Repression	
3229492	3229925	11.27	+	[fadH]	Repression	Known
3237429	3238167	12.24	+	[sstT]	Activation	
3242529	3242792	4.06	+	[exuT]	N/D	
3242529	3242792	4.06	-	[uxaA, uxaC]	Repression	
3306347	3306826	8.51	-	[nlpI]	Activation	
3309193	3309930	9.77	-	[pnp, rpsO]	N/D	
3309193	3309930	9.77	+	[psrO]	N/D	
3316172	3316576	8.7	+	[argG]	N/D	
3316172	3316576	8.7	-	[infB, metY, nusA, pnp, rbfA, rimP, rpsO, truB]	Activation	
3320118	3320918	18.9	-	[leuU, secG]	Activation	
3331135	3331514	7.54	-	[rplU, rpmA]	Activation	
3351922	3352747	14.07	-	[yhcC]	N/D	
3351922	3352747	14.07	+	[gltB, gltD, gltF]	N/D	
3382354	3383246	10.32	+	[argR]	Activation	
3382354	3383246	10.32	-	[mdh]	Repression	Known
3524059	3524713	7.17	-	[nudE]	Repression	
3524059	3524713	7.17	+	[yrfF]	Activation	
3530384	3530763	3.76	+	[pck]	N/D	
3530384	3530763	3.76	-	[yhgE]	Activation	
3537768	3538389	6.28	+	[feoA, feoB, feoC]	Repression	
3559725	3560000	3.37	+	[glpD]	Repression	Known
3559725	3560000	3.37	-	[glpE, glpG, glpR]	conflict	
3590129	3590604	9.42	-	[ugpA, ugpB, ugpC, ugpE, ugpQ]	Repression	
3628633	3629217	6.86	-	[rbbA, yhhJ, yhiI]	Activation	
3663691	3664091	6.23	-	[gadW, gadX]	Activation	Known
3671224	3673895	203.32	+	[yhjE]	Repression	
3705383	3706208	11.88	-	[dppA, dppB, dppC, dppD, dppF]	Repression	
3710141	3710558	8.83	-	[yhjX]	N/D	
3717470	3718158	12.02	+	[cspA, yiaG]	Repression	
3774832	3775395	11.22	+	[lldD, lldP, lldR]	Repression	Known
3809457	3810128	10.37	-	[mutM, rpmB, rpmG]	Activation	
3882060	3882705	13.25	+	[rnpA, rpmH]	Activation	
3882060	3882705	13.25	-	[dnaA, dnaN, recF]	N/D	
3891506	3892056	5.19	+	[yieE, yieF]	Repression	
3963762	3964341	11.45	-	[rhlB]	Repression	
3963762	3964341	11.45	+	[rho, rhoL, trxA]	Activation	
4028951	4029389	6.33	+	[hemG, pepQ, trkH, yigZ]	Repression	
4028951	4029389	6.33	-	[fadA, fadB]	Repression	Known
4158474	4159090	10.7	+	[fabR, yijD]	Activation	
4158474	4159090	10.7	-	[sthA]	Repression	
4194017	4194596	9.12	-	[thiC, thiE, thiF, thiG, thiH, thiS]	Repression	
4285290	4285644	8.49	+	[nrfA, nrfB, nrfC, nrfD, nrfE, nrfF, nrfG]	Activation	
4285290	4285644	8.49	-	[acs, actP, yjch]	Repression	
4346724	4347078	5.33	-	[dcuB, fumB]	N/D	
4364658	4365071	12.53	-	[dcuA]	Activation	
4427296	4427950	26.83	+	[cycA]	Repression	
4569507	4569903	12.53	+	[yjiS]	N/D	
4569507	4569903	12.53	-	[yjiR]	Repression	
4637994	4639032	23.97	+	[yjiY]	N/D	
4637994	4639032	23.97	-	[arcA]	Activation	