

Supplementary Table 1. Identification of the proteins differentially expressed during carbon starvation.

Protein name	Gene name	Ro no.	Genetic context	MASCO T score ^a	Peptides matched	Normalized signal intensity (NV) ^b						
						ML	TP	PTP	ES	MS	LS	LLS
benzoate 1,2-dioxygenase alpha subunit	<i>benA</i>	02384	<i>ben</i> cluster	163	14	1.70	1.30	0.61	0.43	0.15	0.11	0.07
benzoate 1,2-dioxygenase beta subunit	<i>benB</i>	02385	<i>ben</i> cluster	87	5	1.09	0.97	0.59	0.46	0.18	0.17	0.18
benzoate 1,2-dioxygenase reductase subunit	<i>benC</i>	02386	<i>ben</i> cluster	113	11	0.98	0.81	0.35	0.21	0.02	N	N
cis-1,6-dihydroxycyclohexa-3,5-diene-1-carboxylate dehydrogenase	<i>benD</i>	02387	<i>ben</i> cluster	102	8	0.56	0.50	0.33	0.20	0.02	0.04	0.01
catechol 1,2-dioxygenase	<i>catA</i>	02373	<i>cat</i> cluster	84	9	3.50	3.28	2.40	1.82	0.67	0.36	0.19
muconate cycloisomerase	<i>catB</i>	02372	<i>cat</i> cluster	60	7	0.42	0.35	0.23	0.11	0.02	0.01	0.01
3-oxoacid CoA-transferase, subunit A	<i>pcaI</i>	01334	<i>pca</i> cluster	80	8	0.35	0.32	0.30	0.27	0.10	0.04	0.02
protocatechuate dioxygenase alpha subunit	<i>pcaG</i>	01336	<i>pca</i> cluster	60	4	0.26	0.28	0.25	0.18	0.04	0.05	0.05
3-oxoacid CoA-transferase	<i>pcaJ</i>	01333	<i>pca</i> cluster	119	7	0.10	0.12	0.10	0.02	0.02	0.02	0.02
Acetyl-CoA C-acyltransferase	<i>pcaF</i>	01340	<i>pca</i> cluster	151	13	0.28	0.39	0.42	0.39	0.30	0.20	0.02
3-carboxy-cis,cis-muconate cycloisomerase	<i>pcaB</i>	01337	<i>pca</i> cluster	211	5	0.10	0.11	0.07	0.08	0.08	0.07	N
protocatechuate dioxygenase beta subunit	<i>pcaH</i>	01335	<i>pca</i> cluster	349	7	0.14	0.20	0.08	0.08	0.02	0.01	0.01
3-oxoadipate enol-lactone hydrolase/4-carboxymuconolactone decarboxylase	<i>pcaL</i>	01338	<i>pca</i> cluster	27	4	0.21	0.20	0.10	0.06	0.08	0.06	0.03
transcriptional regulator, IclR family	<i>pcaR</i>	01339	<i>pca</i> cluster	95	7	0.03	0.04	0.05	0.06	0.05	0.03	0.02
biphenyl 2,3-dioxygenase alpha subunit	<i>bphAa</i>	08060	<i>bph</i> cluster	64	6	N	N	N	N	0.48	0.54	0.15
cis-3-phenylcyclohexa	<i>bphB2</i>	10126	<i>bph/etb</i> cluster	184	14	N	N	N	N	0.03	0.03	0.13

-3,5-diene-1,2-diol dehydrogenase	<i>bphD1</i>	10136	<i>bph/etb</i> cluster	93	13	N	N	N	N	0.10	0.08	0.03
2,6-dioxo-6-phenylhexa-3-enoate hydrolase	<i>etbAa1</i>	10133	<i>bph/etb</i> cluster	71	13	N	N	N	N	0.47	0.45	0.26
ethylbenzene dioxygenase alpha subunit	<i>etbD1</i>	08044	<i>bph/etb</i> cluster	97	7	0.01	0.01	0.02	0.01	0.24	0.29	0.18
2-hydroxy-6-oxohepta-2,4-dienoate hydrolase	<i>etbD2</i>	10146	<i>bph/etb</i> cluster	132	9	0.01	0.01	0.02	0.02	0.27	0.26	0.10
2,6-dioxo-6-phenylhexa-3-enoate hydrolase	<i>padAd1</i>	08162/ 12013	<i>pad</i> clusters	52	11	0.02	0.05	0.07	0.09	0.03	0.02	N
phthalate 3,4-dioxygenase, ferredoxin reductase subunit	<i>patE</i>	08169	<i>pat</i> cluster	66	9	0.04	0.04	0.09	0.12	0.07	0.06	0.03
phthalate ester hydrolase												
propane monooxygenase hydroxylase large subunit		00441	large cluster with phenol hydroxylase and GroEL	69	12	0.02	0.03	0.03	0.04	0.13	0.68	0.38
probable 1,3-propanediol dehydrogenase		06057	ATP-dependent protease	160	14	0.05	0.03	0.15	0.24	0.24	0.56	0.29
CO dehydrogenase, medium subunit		04975	CODH	85	7	0.09	0.13	0.08	0.12	0.22	0.20	0.19
¹³ C dehydrogenase, maturation factor		05229	CODH	71	11	N	N	N	N	0.17	0.38	0.49
¹³ C dehydrogenase, medium subunit		05230	CODH	89	12	0.04	0.07	0.03	0.04	0.18	0.20	0.43
¹³ C dehydrogenase, large subunit		05232	CODH	147	26	N	N	0.05	0.04	0.17	0.20	0.46
5,10-methylene tetrahydromethanopterin reductase		03459	single gene	145	9	0.02	0.05	0.12	0.20	0.32	0.35	0.39
5,10-methylene tetrahydromethanopterin reductase		02204	not clear	58	6	0.23	0.24	0.28	0.31	0.34	0.4	0.28
5,10-methylene tetrahydromethanopterin reductase		02495	monooxygenase	75	12	0.02	0.01	0.03	0.02	0.07	N	N
citrate synthase	<i>citA4</i>	04993, 08812	phosphoserine transaminase	44	9	0.09	0.1	0.03	0.01	0.02	0.01	0.004

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citrate synthase		04998	peptidylprolyl isomerase	117	11	0.03	0.05	0.05	0.05	0.03	0.02	N
isocitrate dehydrogenase		06238	Arabinose efflux permease	95	11	0.16	0.10	0.02	N	N	N	N
succinate-CoA ligase, alpha subunit	<i>sucD</i>	05573	<i>suc</i> cluster	77	9	1.00	0.85	0.85	0.80	0.67	0.58	0.42
succinate-CoA ligase, beta subunit	<i>sucC</i>	05574	<i>suc</i> cluster	139	12	1.07	0.82	0.79	1.03	0.92	0.58	0.50
succinate dehydrogenase	<i>sdhA2</i>	06246	<i>sdh</i> cluster	71	12	0.60	0.45	0.33	0.31	0.32	0.19	0.27
fumarate hydratase		08824	succinate dehydrogenase	206	10	N	N	0.01	0.01	0.01	0.02	0.02
malate dehydrogenase	<i>fabF</i>	06000	single gene	95	7	0.20	0.24	0.25	0.16	0.06	0.02	0.06
dihydrolipoyl dehydrogenase	<i>dldH1</i>	02140	Hypothetical lipid metabolism	74	10	0.09	0.04	N	N	N	N	N
isocitrate lyase		02122	pentose phosphate pathway	132	15	0.20	0.22	0.74	0.75	0.59	0.38	0.46
glucose-6-phosphate dehydrogenase	<i>zwf4</i>	07184	RNA helicase	120	12	0.03	0.02	0.03	0.04	0.05	0.05	0.11
phosphogluconate dehydrogenase	<i>gnd3</i>	07246	Amidotransferase <i>gat</i>	126	14	0.08	0.06	0.15	0.23	0.39	0.43	0.50
6-phosphofruktokinase	<i>pfkA</i>	06479	glutamate synthase	84	13	0.02	0.04	0.03	0.03	0.01	N	N
pyruvate kinase	<i>pyk1</i>	01007	Hypothetical	63	10	0.29	0.29	0.29	0.27	0.30	0.18	0.19
glucose-6-phosphate isomerase		05567	long-chain-fatty-acid-CoA ligase	159	15	0.08	0.09	0.10	0.11	0.10	0.12	0.11
phosphoglycerate mutase	<i>gpmA</i>	02070	single gene	93	7	0.02	0.05	0.13	0.09	0.09	0.12	0.36
glycosyltransferase		05974	glycosyltransferase	84	12	N	0.02	0.05	0.06	0.10	0.09	0.08
glycosyltransferase		05764	transcriptional regulator	56	6	0.02	0.02	0.03	0.05	0.15	0.18	0.24
°nucleoside-diphosphate-sugar epimerase		00180	glycosidase	81	8	0.01	0.03	0.05	0.03	0.09	0.07	0.11
1,4-alpha-glucan branching enzyme	<i>glgB</i>	01449	hypothetical genes	250	25	0.03	0.03	0.04	0.05	0.07	0.11	0.04
glycoside hydrolase		04568	Single	75	10	N	N	0.01	0.02	0.03	0.03	0.04
carboxyvinyl-	<i>prpB</i>	02162		47	4	0.06	0.07	0.12	0.22	0.23	0.24	0.23

carboxyphosphate phosphorylmutase			gene										
succinate-semialdehyde dehydrogenase (NAD(P)+)	<i>gabD4</i>	05568	Single gene	111	15	0.06	0.07	0.1	0.14	0.23	0.23	0.42	
succinate-semialdehyde dehydrogenase (NAD(P)+)	<i>gabD3</i>	04543	<i>gabT2</i>	110	7	0.05	0.16	0.34	0.29	0.17	0.19	0.21	
60kDa chaperonin GroEL chaperone protein	<i>groL2</i>	02146	universal stress protein	143	12	0.83	0.69	0.60	0.60	0.65	0.63	N	
60 kDa chaperonin GroEL	<i>groEL</i>	06190	10 kDa chaperonin	138	12	0.81	0.67	1.20	0.93	0.71	0.63	0.34	
heat shock protein Hsp70	<i>groL1</i>	00448	propane monooxygenase	81	7	N	N	0.61	0.37	0.11	1.45	N	
universal stress protein	<i>dnaK1</i>	05497	chaperones : grpE1, dnaJ2	80	15	1.01	1.10	0.71	0.72	1.07	1.99	1.36	
universal stress protein		02263	universal stress protein, oxidoreductase	278	8	0.03	0.03	0.05	0.05	0.04	0.03	0.03	
universal stress protein		04893	pseudouridylate synthase	71	6	0.08	0.06	0.06	0.12	0.12	0.19	0.18	
type I restriction-modification system, methyltransferase	<i>hsdM</i>	11151	restriction-modification system	60	13	N	N	N	N	0.01	0.07	N	
thiocyanate hydrolase gamma subunit		04428	thiocyanate hydrolase subunits	85	7	N	N	N	0.08	0.23	0.21	0.11	
epoxide hydrolase		08833	hypothetical genes	98	11	0.17	0.16	0.19	0.23	0.25	0.27	0.27	
superoxide dismutase	<i>sodA</i>	04009	amidotransferase	62	6	1.08	0.90	1.10	1.19	1.40	1.38	1.62	
heme superoxide dismutase		06860	Heme biosynthesis, oxidoreductase	73	6	0.19	0.19	0.18	0.26	0.25	0.31	0.39	
catalase	<i>katE</i>	04309	Fe(3+) uptake regulator	77	14	0.02	0.05	0.05	0.07	0.04	0.01	0.02	
ATP-dependent Clp protease		01371	clpX , FKBP-type	59	7	0.25	0.25	0.40	0.41	0.30	0.43	0.50	

prolyl aminopeptidase		01171	bacterial trigger factor <i>panB</i> , coenzyme metabolism	8	74	7	0.01	0.03	0.03	0.02	0.01	0.09
FeS assembly ATPase	<i>sufC</i>	07198	<i>suf</i> cluster	76	8		0.21	0.17	0.17	0.14	0.11	0.09
bacterioferritin		04043	Bacterioferritin-associated ferredoxin transcriptional regulator, LytR	80	6	0.00 ₂	0.02	0.11	0.18	0.37	0.28	0.41
bacterioferritin		04028	cell division	40	5	0.03	0.04	0.02	0.04	0.07	0.04	0.09
cell division initiation protein		01080	cell division	135	11	0.00 ₂	0.00 ₅	0.01	0.07	0.11	0.08	0.03
sensor kinase, two-component system		02255	single gene	51	8	0.11	0.11	0.08	0.04	N	N	N
transcriptional activator TenA		01597	ABC-type nitrate/sulfonate/bicarbonate transport	60	5	0.16	0.18	0.14	0.10	0.04	0.04	0.06
transcriptional regulator; TetR family		08719	hypothetical genes	31	5	0.06	0.09	0.09	0.12	0.06	0.06	0.07
transcriptional regulator, TetR family		10228	single gene (carveol dehydrogenase)	53	7	0.03	0.04	0.03	0.06	0.04	0.02	0.01
conserved hypothetical protein		00906	transcriptional regulator	81	8	0.04	0.04	0.13	0.09	0.18	0.21	0.23
RNA polymerase sigma factor G	<i>sigG</i>	05361	ArsR	122	12	0.07	0.07	0.11	0.13	0.17	0.14	0.18
transcriptional regulator, GntR family		03232	probable multidrug resistance transporter	51	5	0.02	0.04	0.05	0.13	0.06	0.03	0.04
iron dependent transcription repressor		06652	single gene	62	6	0.02	0.06	0.07	0.12	0.17	0.12	0.06
transcriptional regulator; IclR family		02458	carbohydrate kinase, PfkB family	52	4	N	N	N	N	N	0.01	N

^aMASCOT generated Probability Based Mowse Score. The scores greater than 55 are significant (p<0.05);

^bspot signal intensities were normalized and averaged over three replica gels (each from independent

experiment). ^cProtein annotation was edited. N, not detected.