

**Table 3.** Mutants evaluated for growth on different carbon sources. Growth on five different carbon sources was used to identify genes involved in the catabolism of the carbon sources. Each carbon source is shown in the table as a different column, with the three that are only missing transport activities in the columns 3 through 5. A '+' indicates that the mutant had similar growth behavior to the parental strain, and a '-' indicates the mutant had a different growth behavior than the parental strain (for these cases the comments column describes the observed differences). Blank entries indicate that the mutant was not evaluated on this carbon source.

BNUM	GENE NAME	Thymidine	5-Keto-D-Gluconate	Propionate	D-malate	L-galactonate	COMMENTS
b3654	yicE	+					
b1006	ycdG	+					
b2497	uraA	+					
b2406	xapB	+					
b2964	nupG	-					NupG mutant has a lower growth rate than parental strain, likely due to decreased thymidine uptake
b2393	nupC	+					
b2161	nupX	+					
b2164	yeiM	+					
b0336	codB	+					
b0511	ybbW	+					
b3714	yieG	+					
b3664	yicO	+					
b4064	yjcD	+					
b2884, b2885	ygfR,ygfQ	+					
b2882	ygfO	+					
b0513	ybbY	+					
b2888	ygfU	+					
b3035	tolC	-					TolC mutant shows altered growth lower overall biomass yield and growthrate (in flask and Bioscreen C), this may be a global effect as Biolog data for this mutant shows defective growth in 19 out of 38 carbon source environments (see text for reference)
b3266	acrF	+					
b0463	acrA	+					
b2685	emrA	+					
b2686	emrB	+					
b0462	acrB	+					
b0879	macB	+					
b2075	mdtB	+					
b2470	acrD	+					
b2367	emrY	+					
b3514	yhiV	+					
b2076	mdtC	+					

BNUM	GENE NAME	5-Keto-D-Gluconate			L-galactonate	COMMENTS
		Thymidine	Propionate	D-malate		
b4265	idnT	-				Slower growth in Bioscreen C and flasks
b3415	gntT	+				
b4476	gntU	+				
b4321	gntP	+	+			
b1296	ycjJ		-			Reduced growth rate in Bioscreen, but when antibiotic resistance gene is removed the mutant grows at the same rate as the parental strain in flasks
b4067	ycjG		+			
b3258	panF		+			
b1015	putP		-			Reduced growth rate in Bioscreen and flask
b1800	yeaU			-		Lethal in both Bioscreen and flask experiments
b1479	sfcA			+		
b2463	maeB			+		
b4138	dcuA			+		
b4123	dcuB			+		
b0621	dcuC			+		
b3227	dcuD			+		
b3528	dctA			-		In both Bioscreen and flask experiments strain grows after 2 days with a slower growth rate than the parental strain
b1799	yeaT			-		Lethal in Bioscreen;In flask experiments strain grows after 2 days with a much slower growth rate than the parental strain
b1801	yeaV			+		Shows altered growth on L-malate but normal growth on D-malate in the Bioscreen
b3091	uxaA			-		Lethal in Bioscreen, untested in flask since phenotype has been previously reported
b1521	uxaB			+		UxaB mutant shows a prolonged lag period (~2days) but is able to grow after this point (another isozyme is present in the genome, uxuB)
b3092	uxaC			-		Lethal in Bioscreen, while not needed for the catabolism of L-galactonate it might affect the expression of uxaA
b1545	ydfL			+		
b2172	yeiQ			+		
b4356	yjjL			-		Lethal in both Bioscreen and flask experiments
b4357	yjjM			-		Lethal in both Bioscreen and flask experiments
b4358	yjjN			-		Lethal in Bioscreen;In flask experiments strain grows after 2 days with a slower growth rate than the parental strain
b3094	exuR			+		ExuR mutant shows a slightly shorter lag period than the parental strain, most likely due to a loss in repression of the uxaABC genes

+ indicates normal growth

- indicates significantly altered growth