



**A**

Position	IGI #	Cluster #	RAST annotation	BLAST top hit
258	12	CL_1839	Tyrosine-protein kinase transmembrane modulator EpsC	capsular polysaccharide biosynthesis protein [Oenococcus oeni]
259	12	CL_1838	capsular polysaccharide biosynthesis protein	hypothetical protein [Oenococcus oeni]
260	12	CL_1837	Manganese-dependent protein-tyrosine phosphatase (EC 3.1.3.48)	hypothetical protein [Oenococcus oeni]
261	12	CL_1836	Undecaprenyl-phosphate galactosephosphotransferase (EC 2.7.8.6)	sugar transferase [Oenococcus oeni]
262	12	CL_1835	Polysaccharide biosynthesis protein CpsF	UDP-N-acetylglucosamine:LPS N-acetylglucosamine transferase [Oenococcus oeni]
263	12	CL_1834	Glycosyl transferase CpsG	multidrug MFS transporter [Oenococcus oeni]
264	12	CL_1833	-	hypothetical protein AWRIB575_968 [Oenococcus oeni AWRIB576]
265	12	CL_1832	-	glycosyltransferase [Oenococcus oeni]
266	12	CL_1831	-	glycosyltransferase family 2 [Oenococcus oeni]
267	12	CL_1830	-	glycosyltransferase family 2 [Oenococcus oeni]
268	12	CL_1829	-	hypothetical protein [Oenococcus oeni]
269	12	CL_1828	Holliday junction DNA helicase RuvA	glycosyltransferase family 1 [Oenococcus oeni]
270	12	CL_1827	-	hypothetical protein [Oenococcus oeni]
271	12	CL_1826	-	hypothetical protein [Oenococcus oeni]
272	12	CL_1825	-	hypothetical protein [Oenococcus oeni]
273	12	CL_1824	-	hypothetical protein [Oenococcus oeni]
274	12	CL_1823	-	hypothetical protein [Oenococcus oeni]
275	12	CL_1822	-	transcriptional antiterminator [Oenococcus oeni]
276	12	CL_1821	6-phospho-beta-glucosidase (EC 3.2.1.86)	beta-glucosidase [Oenococcus oeni]
277	12	CL_1820	Transcription antiterminator, BglG family	transcriptional antiterminator [Oenococcus oeni]
278	12	CL_1819	-	PTS mannose transporter subunit IIA, partial [Oenococcus oeni]
279	12	CL_1818	PTS system, fructose-specific IIB component (EC 2.7.1.69)	PTS fructose transporter subunit IIB [Oenococcus oeni]
280	12	CL_1817	PTS system, IIC component	hypothetical protein [Oenococcus oeni]
281	12	CL_1816	PTS system, IIC component	PTS mannose transporter subunit IIA [Oenococcus oeni]
282	12	CL_1815	Alpha-mannosidase (EC 3.2.1.24)	hypothetical protein [Oenococcus oeni]
283	12	CL_2042	-	hypothetical protein [Oenococcus oeni]
284	12	CL_2041	Oligopeptide ABC transporter, periplasmic oligopeptide-binding protein OppA (TC 3.A.1.5.1)	peptide ABC transporter substrate-binding protein [Oenococcus oeni]
285	12	CL_2040	Deblocking aminopeptidase (EC 3.4.11.-)	peptidase M42 [Oenococcus oeni]
286	12	CL_2039	FIG00628259: hypothetical protein	peptidase [Oenococcus oeni]
287	12	CL_2038	Substrate-specific component YkoE of thiamin-regulated ECF transporter for HydroxyMethylPyrimidine	ABC transporter permease [Oenococcus oeni]

**B**

Position	IGI #	Cluster #	RAST annotation	BLAST top hit
609	28	CL_17065	-	hypothetical protein [Oenococcus oeni]
610	28	CL_17066	Xylose kinase (EC 2.7.1.17)	xylose kinase [Oenococcus oeni]
611	28	CL_17067	Xylose isomerase (EC 5.3.1.5)	xylose isomerase [Lactobacillus casei]
612	28	CL_19301	Xylose repressor	transcriptional regulator [Lactobacillus buchneri]
613	28	CL_17068	D-xylose proton-symporter XylT	hypothetical protein [Oenococcus oeni]
614	28	CL_17069	-	hypothetical protein [Oenococcus oeni]
615	28	CL_17070	PTS system, mannose-specific IIB component (EC 2.7.1.69)	PTS sorbose transporter subunit IIB [Oenococcus oeni]
616	28	CL_17071	Alpha-xylosidase (EC 3.2.1.-)	family 3I glucosidase [Oenococcus oeni]
617	28	CL_17072	PTS system, mannose-specific IIC component	PTS mannose transporter subunit IIC [Oenococcus oeni]
618	28	CL_17073	PTS system, mannose-specific IID component	PTS mannose transporter subunit IID [Oenococcus oeni]
619	28	CL_17074	Trehalose-6-phosphate hydrolase (EC 3.2.1.93)	oligo-1,6-glucosidase [Oenococcus oeni]
620	28	CL_19206	Ferrochelatase, protoheme ferro-lyase (EC 4.99.1.1)	ferrochelatase [Enterococcus moraviensis]

**C**

Position	IGI #	Cluster #	RAST annotation	BLAST top hit
1525	92	CL_20397	-	transcriptional regulator [Oenococcus oeni]
1526	92	CL_20398	Glutathione S-transferase (EC 2.5.1.18)	glutathione S-transferase [Oenococcus oeni]
1527	92	CL_20399	L-ribulose-5-phosphate 4-epimerase (EC 5.1.3.4)	L-ribulose-5-phosphate 4-epimerase [Oenococcus oeni]
1528	92	CL_2100	L-xylose 5-phosphate 3-epimerase (EC 5.1.3.-)	L-xylose 5-phosphate 3-epimerase [Oenococcus oeni]
1529	92	CL_2101	L-xylosylkinase (EC 2.7.1.53)	carbohydrate kinase [Oenococcus oeni]
1530	92	CL_2102	-	hypothetical protein [Oenococcus oeni]

**D**

Position	IGI #	Cluster #	RAST annotation	BLAST top hit
1718	111	CL_17654	-	PTS system, glucose/sucrose specific IIA subunit [Oenococcus oeni]
1719	111	CL_17655	-	sucrose-6-phosphate hydrolase, partial [Lactobacillus vini]
1720	111	CL_17656	Sucrose-6-phosphate hydrolase (EC 3.2.1.83)	sucrose-6-phosphate hydrolase [Lactobacillus mali]
1721	111	CL_17657	PTS system, sucrose-specific IIB component (EC 2.7.1.69)	PTS sugar transporter [Oenococcus oeni]
1722	111	CL_17658	-	sucrose operon repressor [Lactobacillus mali]
1723	111	CL_17659	-	sucrose operon repressor [Lactobacillus mali]