

Table 15. Transcripts that are significantly changed in the cancer-associated Kx2 isolate after mGEP infection.

HPAG1 homolog	26695 homolog	J99 homolog	Annotation	Gene symbol	COG*/NOG** number	COG category	EC† number	Fold change compared to non-infecting Kx2
HPAG1_0009	HP0009	JHP0007	outer membrane protein HopZ	hopZ				-4.2
HPAG1_0016	HP0016	JHP0014	hypothetical protein					4.2
HPAG1_0037	HP0038	JHP0034	comb8 competence protein	comb8	COG3736	U		4.8
HPAG1_0054	HP0057	JHP0049	hypothetical protein					-2.8
HPAG1_0084	HP0083	JHP0076	ribosomal protein S9	rps9	COG0103	J		-4.2
HPAG1_0085	HP0084	JHP0077	ribosomal protein L13	rpl13	COG0102	J		-3.2
HPAG1_0099	HP0099	JHP0091	methyl-accepting chemotaxis transmembrane sensory protein	tipA	COG0940	N		-4.6
HPAG1_0111	HP0111	JHP0103	heat-inducible transcription repressor	hrcA	COG1420	K		2.5
HPAG1_0121	HP0122	JHP0112	hypothetical protein					2.4
HPAG1_0129	HP0130	JHP0119	hypothetical protein					2.2
HPAG1_0149	HP0151	JHP0139	conserved hypothetical membrane protein					2.7
HPAG1_0167	HP0171	JHP0157	peptide chain release factor RF-2	prfB	COG1186	J	3.1.1.29	2.4
HPAG1_0178	HP0181	JHP0169	hypothetical protein		COG1286	R		-3.3
HPAG1_0198	HP0204	JHP0190	hypothetical protein					-6.0
HPAG1_0210	HP0209	JHP0195	outer membrane protein HofA	hofA				3.0
HPAG1_0245	HP0242	JHP0227	hypothetical protein		NOG46103			-3.7
HPAG1_0250	HP0247	JHP0232	ATP-dependent RNA helicase	deaD	COG0513	L	2.7.7.-	-2.6
HPAG1_0274	HP0272	JHP0257	hypothetical protein		NOG45155			2.6
HPAG1_0282	HP0280	JHP0265	putative lipid A biosynthesis acyltransferase	ibpB	COG1560	M	2.3.1.-	-3.4
HPAG1_0297	HP0295	JHP0280	putative flagellar-hook associated protein 3	fla	COG1344	N		-2.7
HPAG1_0298	HP0296	JHP0291	ribosomal protein L21	rpl21	COG3261	J		-3.1
HPAG1_0334	HP0330	JHP0313	ketol-acid reductoisomerase	ivcC	COG0059	E	1.1.1.86	2.7
HPAG1_0386	HP1061	JHP0364	sec-independent protein translocase protein	tatC	COG0805	U		2.6
HPAG1_0397	HP1050	JHP0375	homoserine kinase	thrB	COG0083	E	2.7.1.39	2.8
HPAG1_0398	HP1049	JHP0376	hypothetical protein		COG2740	K		3.1
HPAG1_0422	HP1025	JHP0399	putative heat shock protein	hspR	COG0789	K		2.9
HPAG1_0428	HP1019	JHP0405	protease DO	htrA	COG0265	O	3.4.21.-	-2.6
HPAG1_0448			hypothetical protein					7.3
HPAG1_0495	HP0520	JHP0469	cag pathogenicity island protein 1	cag1				2.3
HPAG1_0510	HP0534	JHP0482	cag pathogenicity island protein S	cagS				3.3
HPAG1_0513	HP0538	JHP0486	cag pathogenicity island protein N	cagN				2.6
HPAG1_0532	HP0554	JHP0501	hypothetical protein		NOG39968			2.7
HPAG1_0534	HP0556	JHP0503	hypothetical protein					3.9
HPAG1_0536	HP0558	JHP0505	beta ketoacyl-acyl carrier protein synthase II	fabF	COG0304	I	2.3.1.41	2.2
HPAG1_0544	HP0565	JHP0512	hypothetical protein		COG3059	S		-3.4
HPAG1_0553	HP0574	JHP0521	ribose 5-phosphate isomerase	rpi	COG0898	G	5.3.1.6	-2.4
HPAG1_0561	HP0582	JHP0529	putative siderophore-mediated iron transport protein	tonB1	COG0810	M		-3.4
HPAG1_0568	HP0588	JHP0536	2-oxoglutarate oxidoreductase OorD subunit	oorD	COG1146	C	1.2.7.3	-4.6
HPAG1_0569	HP0589	JHP0537	2-oxoglutarate oxidoreductase OorA subunit	oorA	COG0674	C	1.2.7.3	-6.3
HPAG1_0603	HP0620	JHP0564	inorganic pyrophosphatase	ppa	COG0221	C	3.6.1.1	-2.8
HPAG1_0626	HP0642	JHP0586	NAD(P)H-flavin oxidoreductase	fxA	COG0778	C		-4.2
HPAG1_0632	HP0647	JHP0592	hypothetical protein		NOG46051			-2.5
HPAG1_0633	HP0648	JHP0593	UDP-N-acetylglucosamine enolpyruvyl transferase	murZ	COG0766	M	2.5.1.7	-6.0
HPAG1_0649	HP0664	JHP0609	hypothetical protein		NOG47101			-2.4
HPAG1_0670	HP0687	JHP0627	iron(II) transport protein	feoB	COG0370	P		3.9
HPAG1_0671	HP0688	JHP0628	hypothetical protein		COG3298	L		2.1
HPAG1_0679	HP0694	JHP0634	putative outer membrane protein		COG3528	S		2.8
HPAG1_0696	HP0711	JHP0650	hypothetical protein		COG1896/COG4940	RU		4.4
HPAG1_0698	HP0713	JHP0651	hypothetical protein		COG3177	S		2.8
HPAG1_0711	HP0727	JHP0664	transcriptional regulator		COG0042	J	1.-.-.-	2.4
HPAG1_0719	HP0735	JHP0672	xanthine guanine phosphoribosyl transferase	gpt	COG2236	R	2.4.2.22	-3.1
HPAG1_0720	HP0736	JHP0673	phosphoserine aminotransferase	serC	COG0075	E	2.6.1.-	-2.9
HPAG1_0734	HP0749	JHP0686	cell division membrane protein	ftsX	NOG12526			2.6
HPAG1_0739	HP0754	JHP0691	hypothetical protein					3.4
HPAG1_0790	HP0805	JHP0741	lipooligosaccharide 5G8 epitope biosynthesis-associated protein	lex2B	COG3306	M		5.3
HPAG1_0820	HP0834	JHP0773	GTP-binding protein homologue	yphC	COG1160	R	1.1.1.95	2.3
HPAG1_0826	HP0841	JHP0779	pantothenate metabolism flavoprotein	dfp	COG0452	H	4.1.1.36	-2.5
HPAG1_0874	HP0895		hypothetical protein					-2.7
HPAG1_0888	HP0906	JHP0842	hypothetical protein		NOG43410			-3.2
HPAG1_0897	HP0914	JHP0850	outer membrane protein HopG	hopG				3.2
HPAG1_0966			hypothetical protein					3.8
HPAG1_0979	HP0415	JHP0969	conserved hypothetical integral membrane protein		COG0668	M		3.2
HPAG1_0987	HP0395	JHP0986	hypothetical protein		COG0325	R	2.7.3.-	-4.0
HPAG1_1003	HP0389	JHP0992	iron-dependent superoxide dismutase	sodB	COG0605	P	1.15.1.1	-2.4
HPAG1_1004	HP0388	JHP0993	hypothetical protein		COG0500	Q	2.1.1.-	-3.1
HPAG1_1010	HP0382	JHP0999	zinc-metalloprotease		COG0501	O	3.4.24.-	-2.7
HPAG1_1017	HP0375	JHP1006	hypothetical protein		NOG44864			3.9
HPAG1_1025	HP0368	JHP1013	hypothetical protein					2.4
HPAG1_1027	HP0367	JHP1014	hypothetical protein					-3.9
HPAG1_1076	HP1138	JHP1066	plasmid replication-partition related protein		COG1475	K		2.7
HPAG1_1093	HP1154	JHP1081	hypothetical protein		COG1699	S		-2.4
HPAG1_1094	HP1155	JHP1082	UDP-N-acetylglucosamine lipid transferase	murG	COG0707	M	2.4.1.227	-2.8
HPAG1_1104	HP1165	JHP1092	tetracycline resistance protein tetA(P)		COG0477	G		3.4
HPAG1_1112	HP1173	JHP1100	hypothetical protein					-2.9
HPAG1_1113	HP1174	JHP1101	glucose/galactose transporter	gluP	COG0738	G		3.1
HPAG1_1119	HP1180	JHP1106	pyrimidine nucleoside transport protein	nupC	COG1972	F		3.8
HPAG1_1151	HP1209		iceA1	iceA1	NOG47905		3.1.21.4	3.1
HPAG1_1157	HP1217	JHP1139	hypothetical protein		COG1714	S		4.5
HPAG1_1169	HP1227	JHP1148	hypothetical protein		COG2863	C		-3.3
HPAG1_1175	HP1233	JHP1154	hypothetical protein		NOG41927			-3.3
HPAG1_1193	HP1250	JHP1171	hypothetical protein					4.9
HPAG1_1217	HP1273	JHP1194	NADH-ubiquinone oxidoreductase chain N	nuoN	COG1007	C	1.6.5.3	-3.0
HPAG1_1220		JHP1197	hypothetical protein					-4.7
HPAG1_1222	HP1291	JHP1211	hypothetical protein		COG1564	H	2.7.6.2	5.8
HPAG1_1227	HP1286	JHP1206	conserved hypothetical secreted protein		COG2353	S		-5.9
HPAG1_1269	HP1324	JHP1244	hypothetical protein					-2.6
HPAG1_1270	HP1325	JHP1245	fumarase	fumC	COG0114	C	4.2.1.2	-3.0
HPAG1_1271	HP1326	JHP1246	hypothetical protein					-7.6
HPAG1_1284	HP1327	JHP1256	nicotinate-nucleotide adenyltransferase	nadD	COG1057	H	2.7.7.18	-3.5
HPAG1_1325	HP1379	JHP1293	ATP-dependent protease	lon	COG0466	O	3.4.21.53	-2.5
HPAG1_1326	HP1380	JHP1294	prephenate dehydrogenase	trpA	COG0287	E	1.3.1.12	-2.9
HPAG1_1366	HP1440	JHP1333	hypothetical protein		NOG39578			2.8
HPAG1_1370	HP1444	JHP1337	SsrA-binding protein	sspB	COG0891	O		2.5
HPAG1_1385	HP1531	JHP1419	hypothetical protein		NOG40348			-3.6
HPAG1_1388	HP1527	JHP1416	periplasmic competence protein	comH				-2.3
HPAG1_1391	HP1524	JHP1413	hypothetical protein					-6.0
HPAG1_1400	HP1512	JHP1405	iron-regulated outer membrane protein	frpB	COG1629	P		4.2
HPAG1_1425	HP1488	JHP1381	conserved hypothetical secreted protein		COG0845	M		-2.4
HPAG1_1483	HP1385	JHP1440	fructose-1,6-bisphosphatase	fbp	COG0158	G	3.1.3.11	-2.7
HPAG1_1523	HP1574	JHP1482	riboflavin synthase alpha subunit	ribC	COG0307	H	2.5.1.9	3.1
HPAG1_1534			hypothetical protein					6.1

*Cluster of Orthologous Groups

**Non-supervised Orthologous Group

†Enzyme Commission