

**Supplementary Table 1: Positive training set used for ApicoAMP development**

Gene id	Organism	EuPathDB product description	Source
BBOV_I004950	<i>B. bovis</i>	triose phosphate transporter	Ortholog to confirmed proteins PFE0410w,TGME49_061070 (OG5_128059), Apiloc
BBOV_I004960	<i>B. bovis</i>	triose phosphate transporter	Ortholog to confirmed proteins PFE0410w,TGME49_061070 (OG5_128059), Apiloc
BBOV_I004970	<i>B. bovis</i>	triose phosphate transporter	Ortholog to confirmed proteins PFE0410w,TGME49_061070 (OG5_128059), Apiloc
BBOV_IV009970	<i>B. bovis</i>	triose phosphate transporter	Ortholog to confirmed protein PFE1510c (OG5_149875), Apiloc
BBOV_III004440	<i>B. bovis</i>	hypothetical protein	Ortholog to confirmed protein TGME49_055370 (OG5_150370), Apiloc
NCLIV_015980	<i>N. caninum</i>	hypothetical protein, conserved	Ortholog to confirmed protein TGME49_039320 (OG5_127283), [5]
NCLIV_028580	<i>N. caninum</i>	hypothetical protein	Ortholog to confirmed protein TGME49_055370 (OG5_150370), Apiloc
PBANKA_102930	<i>P. berghei</i>	ribosomal protein S9, putative	Ortholog to confirmed protein TGME49_018850 (OG5_127478), Apiloc
PBANKA_090430	<i>P. berghei</i>	hypothetical protein	Ortholog to confirmed protein TGME49_055370 (OG5_150370), Apiloc
PBANKA_041200	<i>P. berghei</i>	DER1-like protein, putative	Ortholog to confirmed protein PFC0590c (OG5_156784), Apiloc

PBANKA_131600	<i>P. berghei</i>	DER1-like protein	Ortholog to confirmed protein PF14_0498 (OG5_162102), Apiloc
PCHAS_092060	<i>P. chabaudi</i>	pyruvate dehydrogenase E1 alpha subunit	Ortholog to confirmed proteins PF11_0256,PY00819,TGME49_045670 (OG5_127216), Apiloc
PCHAS_010650	<i>P. chabaudi</i>	uroporphyrinogen III decarboxylase	Ortholog to confirmed proteins PFF0360w,TGME49_089940 (OG5_127347), Apiloc and [5]
PCHAS_110760	<i>P. chabaudi</i>	triose phosphate transporter	Ortholog to confirmed proteins PFE0410w,TGME49_061070 (OG5_128059), Apiloc
PCHAS_110240	<i>P. chabaudi</i>	50S ribosomal protein L28, putative	Ortholog to confirmed protein TGME49_009710 (OG5_130709), Apiloc
PCHAS_072420	<i>P. chabaudi</i>	ubiquitin	Ortholog to confirmed protein PF08_0067 (OG5_165569), Apiloc
PFC0590c	<i>P. falciparum</i>	DER1-like protein, putative	Confirmed localization to Apicoplast, ApiLoc
PFE1510c	<i>P. falciparum</i>	triose phosphate transporter	Confirmed localization to Apicoplast, ApiLoc
PFF0360w	<i>P. falciparum</i>	uroporphyrinogen III decarboxylase	Confirmed localization to Apicoplast, ApiLoc
PF08_0067	<i>P. falciparum</i>	ubiquitin	Confirmed localization to Apicoplast, ApiLoc
PF11_0256	<i>P. falciparum</i>	pyruvate dehydrogenase E1 alpha subunit	Confirmed localization to Apicoplast, ApiLoc
PF13_0182	<i>P. falciparum</i>	ubiquitin-activating enzyme	Confirmed localization to Apicoplast, ApiLoc
PF14_0498	<i>P. falciparum</i>	DER1-like protein	Confirmed localization to Apicoplast, ApiLoc
PF10_0191	<i>P. falciparum</i>	tRNA methyl transferase family protein	Ortholog to confirmed protein XP_001611725.1 (OG5_127383), Apiloc

PF14_0132	<i>P. falciparum</i>	ribosomal protein S9, putative	Ortholog to confirmed protein TGME49_018850 (OG5_127478), Apiloc
PFO8_0011	<i>P. falciparum</i>	leucyl-tRNA synthetase, putative	Ortholog to confirmed protein TGME49_066730 (OG5_127675), Apiloc
PFA0225w	<i>P. falciparum</i>	LytB protein, putative	Ortholog to confirmed protein XP_001611301.1 (OG5_130373), Apiloc
PFE0145w	<i>P. falciparum</i>	50S ribosomal protein L28, putative	Ortholog to confirmed protein TGME49_009710 (OG5_130709), Apiloc
PF11_0459	<i>P. falciparum</i>	hypothetical protein	Ortholog to confirmed protein TGME49_055370 (OG5_150370), Apiloc
PKH_102460	<i>P. knowlesi</i>	triose phosphate transporter	Ortholog to confirmed proteins PFE0410w, TGME49_061070 (OG5_128059), Apiloc
PKH_103050	<i>P. knowlesi</i>	50S ribosomal protein L28, putative	Ortholog to confirmed protein TGME49_009710 (OG5_130709), Apiloc
PKH_094220	<i>P. knowlesi</i>	hypothetical protein	Ortholog to confirmed protein TGME49_055370 (OG5_150370), Apiloc
PKH_082580	<i>P. knowlesi</i>	DER1-like protein, putative	Ortholog to confirmed protein PFC0590c (OG5_156784), Apiloc
PKH_125400	<i>P. knowlesi</i>	DER1-like protein	Ortholog to confirmed protein PF14_0498 (OG5_162102), Apiloc
PVX_113530	<i>P. vivax</i>	uroporphyrinogen III decarboxylase	Ortholog to confirmed proteins PFF0360w, TGME49_089940 (OG5_127347), Apiloc and [5]
PVX_079755	<i>P. vivax</i>	triose phosphate transporter	Ortholog to confirmed protein PFE1510c (OG5_149875), Apiloc

PVX_119810	<i>P. vivax</i>	DER1-like protein, putative	Ortholog to confirmed protein PFC0590c (OG5_156784), Apiloc
PVX_089620	<i>P. vivax</i>	ubiquitin	Ortholog to confirmed protein PF08_0067 (OG5_165569), Apiloc
PY04073	<i>P. yoelii</i>	dynamain-like protein, putative	Ortholog to confirmed protein TGME49_067800 (OG5_126660), Apiloc
PY04665	<i>P. yoelii</i>	4-diphosphocytidyl-2c-methyl-D-erythritol kinase (CMK), putative	Ortholog to confirmed protein PFE0150c (OG5_130885), Apiloc
PY06413	<i>P. yoelii</i>	ubiquitin-activating enzyme	Ortholog to confirmed protein PF13_0182 (OG5_146901), Apiloc
PY01812	<i>P. yoelii</i>	triose phosphate transporter	Ortholog to confirmed protein PFE1510c (OG5_149875), Apiloc
TA05100	<i>T. annulata</i>	triose phosphate transporter	Ortholog to confirmed proteins PFE0410w, TGME49_061070 (OG5_128059), Apiloc
TA06475	<i>T. annulata</i>	triose phosphate transporter	Ortholog to confirmed protein PFE1510c (OG5_149875), Apiloc
TA15195	<i>T. annulata</i>	hypothetical protein	Ortholog to confirmed protein TGME49_055370 (OG5_150370), Apiloc
TGME49_008820	<i>T. gondii</i>	1-deoxy-D-xylulose 5-phosphate synthase, putative	Confirmed localization to Apicoplast, [5]
TGME49_021320	<i>T. gondii</i>	acetyl-CoA carboxylase, putative	Confirmed localization to Apicoplast, ApiLoc
TGME49_099070	<i>T. gondii</i>	pyruvate kinase, putative	Confirmed localization to Apicoplast, ApiLoc
TGME49_089940	<i>T. gondii</i>	uroporphyrinogen decarboxylase, putative	Confirmed localization to Apicoplast, [5]
TGME49_039320	<i>T. gondii</i>	hypothetical protein, conserved	Confirmed localization to Apicoplast, [5]

TGME49_061070	<i>T. gondii</i>	hypothetical protein	Confirmed localization to Apicoplast, ApiLoc
TGME49_031890	<i>T. gondii</i>	3-oxoacyl-(acyl-carrier-protein) synthase III family protein, putative	Confirmed localization to Apicoplast, [5]
TGME49_035680	<i>T. gondii</i>	stromal-processing peptidase, putative	Ortholog to confirmed protein PF14_0382 (OG5_135834), Apiloc
TP01_0386	<i>T. parva</i>	plastid replication-repair enzyme	Ortholog to confirmed proteins PF14_0112, TGME49_061920 (OG5_127218), Apiloc
TP02_0339	<i>T. parva</i>	tRNA methyl transferase family protein	Ortholog to confirmed protein XP_001611725.1 (OG5_127383), Apiloc
TP01_0715	<i>T. parva</i>	triose phosphate transporter	Ortholog to confirmed protein PFE1510c (OG5_149875), Apiloc

Note: OGx references refer to OrthoMCL-DB [23] ortholog group numbers.