

Result of attempt and DNA cloning information for tagging of 57 apicoplast proteins encoding genes

Gene ID	Predicted product	Result of attempt	LIC F primer	LIC R primer	Size (bp)	Enzyme	RNA seq test comment
TGME49_007100	hypothetical protein	cc	TACTTCCAATCCAATTTAATGCCACCCGGAGAAGACGC	TCCTCCACTTCCAATTTAGCTTCTATCCGAATACAAGACGC	809	EcoRV	
TGME49_110770	hypothetical protein, conserved	Apicoplast	TACTTCCAATCCAATTTAATGCATAGATATCTACATACTCC		630	EcoRV	
TGME49_073730	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCAGTAACATTTATGGGTAG	TCCTCCACTTCCAATTTAGCGGAGTTCGCATCATTTGCGGAG	1667	AvrII	pred Ct match RNAseq
TGME49_068830	hypothetical protein, conserved	Mitochondria	TACTTCCAATCCAATTTAATGCTTGAGACAGCCAAAGACG		1822	BstBI	
TGME49_021920	hypothetical protein	Apicoplast	TACTTCCAATCCAATTTAATGCATGCTGTGGTCTTTCGGA	TCCTCCACTTCCAATTTAGCAGGCTCAGGTTCCAATC	1599	NsiI	
TGME49_021330	DNA gyrase subunit A,	Apicoplast	TACTTCCAATCCAATTTAATGCTTCGCTCCGCTGTGTGT	TCCTCCACTTCCAATTTAGCGTCTTCTGGTGTCTGCTCTT	1779	NcoI	
TGME49_014500	protamine P1, putative	Nucleus	TACTTCCAATCCAATTTAATGCCACTCGAAGCCGGGTG	TCCTCCACTTCCAATTTAGCTTCTCATCTTCGTCATCTTG	2133	SnaBI	
TGME49_008840	ATP-dependent DNA helicase, putative	Apicoplast	TACTTCCAATCCAATTTAATGCCGACGGAAGAAAGGGAT	TCCTCCACTTCCAATTTAGCAACTCTAAACAACCAAGTCTAT	2879	EcoRV	
TGME49_090030	hypothetical protein, conserved	cc	TACTTCCAATCCAATTTAATGCCGTTGAGCGGATGTCTGG	TCCTCCACTTCCAATTTAGCATGGTGTCCAGCGGCTTCC	1666	MluI	pred Ct match RNAseq
TGME49_078170	hypothetical protein	cc	TACTTCCAATCCAATTTAATGCAGGAGCCGCTGCCG	TCCTCCACTTCCAATTTAGCCACCCGGCAAGAAAACGC	852	PmlI	pred Ct match RNAseq, UTR longer
TGME49_078170	hypothetical protein	cc					
TGME49_087270	hypothetical protein	Apicoplast	TACTTCCAATCCAATTTAATGCCGCGAGCCTGAAGCTCC	TCCTCCACTTCCAATTTAGCCATACCAAGTTTACGCTGAG	816	EcoRV	
TGME49_049690	hypothetical protein	Mitochondria	TACTTCCAATCCAATTTAATGCCCCCGTCTCGCGTCTG	TCCTCCACTTCCAATTTAGCGGCTTTTTCAGACGTTTCTG	1245	PstI	
TGME49_118150	major facilitator superfamily domain-containing protein	cc	TACTTCCAATCCAATTTAATGCCGTACATGTTCGCGCG	TCCTCCACTTCCAATTTAGCGTGTGCACTGTGACAGCCA	1279	ApaI	pred Ct match RNAseq, UTR longer
TGME49_090860	amino acid transporter,	NS	TACTTCCAATCCAATTTAATGCCGACCCGGGGCGC	TCCTCCACTTCCAATTTAGCAGCTTCAACAACAGGCTCGA	1217	MluI	pred Ct match RNAseq
TGME49_016790	ABC transporter, putative	NS	TACTTCCAATCCAATTTAATGCAGGAGTGGCGGCC	TCCTCCACTTCCAATTTAGCAGCTGCTCGAGCATGAAAT	1835	MluI	pred Ct match RNAseq
TGME49_090600	succinyl-CoA ligase alpha subunit, putative	cc	TACTTCCAATCCAATTTAATGCCACCCCTTCGCT	TCCTCCACTTCCAATTTAGCGTGAAGCCGGCCGCC	1464	XcmI	pred Ct match RNAseq
TGME49_090670	cytosol aminopeptidase	NS	TACTTCCAATCCAATTTAATGCATTCCTCTCTGTGCGGGA	TCCTCCACTTCCAATTTAGCGTCTCTTTCGTTTGTGTGCT	1688	PmlI	pred Ct match RNAseq
TGME49_078160	hypothetical protein	Cytosol	TACTTCCAATCCAATTTAATGCTTCCACAGCTTTAGAGGC	TCCTCCACTTCCAATTTAGCTTCCCGGCACAGCCAGAAG	969	SnaBI	
TGME49_047930	syntaxin, putative	cc	TACTTCCAATCCAATTTAATGCCGGCAGCGGAGAAAGCC	TCCTCCACTTCCAATTTAGCGGTGTGTTTCAIGATCAGCAG	2466	PmlI	pred Ct match RNAseq, UTR longer
TGME49_015420	SNARE protein, putative gamma-tubulin complex component 2, putative	NS	TACTTCCAATCCAATTTAATGCTGCGGCGTTTCCCAGATG	TCCTCCACTTCCAATTTAGCGTAAAGCTGACAGCACTGAT	1568	BstBI	pred Ct match RNAseq
TGME49_063510	hypothetical protein	cc	TACTTCCAATCCAATTTAATGCTGCCCGTCCGGGG	TCCTCCACTTCCAATTTAGCTCGGCGCAGCCGGTTCG	1603	EcoRV	pred Ct match RNAseq, UTR longer
TGME49_118510	N-ethylmaleimide-sensitive factor	cc	TACTTCCAATCCAATTTAATGCCAGCACCCTTGCAGATC	TCCTCCACTTCCAATTTAGCGAAGGGCATTGGGTCTAAC	1939	SnaBI	pred Ct match RNAseq
TGME49_095460	got1-like family domain-containing protein	cc	TACTTCCAATCCAATTTAATGCCGGTCTGTGCTCGGAGG	TCCTCCACTTCCAATTTAGCATACGGCAAGCGGCTTTGTG	353	ApaI	pred Ct match RNAseq
TGME49_070070	vesicle trafficking protein, putative	See fig	TACTTCCAATCCAATTTAATGCATGCCGCTCAGGACC	TCCTCCACTTCCAATTTAGCGAGGAAGAGTTTCCAGAAAA	1337	StuI	pred Ct match RNAseq
TGME49_111690	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCATCCCGGGGGCGGAGC	TCCTCCACTTCCAATTTAGCGTGTGAGAAGACGATCAATCG	766	BstBI	pred Ct match RNAseq
TGME49_007090	hypothetical protein, conserved	cc	TACTTCCAATCCAATTTAATGCGGCTTCTGCTTTATCCG	TCCTCCACTTCCAATTTAGCTTCTATCCGAAIACAAGACGC	1572	SnaBI	Ct doesn't match
TGME49_039680	hypothetical protein, conserved	Apicoplast	TACTTCCAATCCAATTTAATGCTGAGTCCGGCCAAACCTCC	TCCTCCACTTCCAATTTAGCAAGTTTGTGTTGAGCGGTAC	1195	MluI	
TGME49_094250	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCTACTCTCGCTACGGGATCC	TCCTCCACTTCCAATTTAGCTTTTCCGGAGGATAGAAAC	2948	PshAI	Ct doesn't match
TGME49_059520	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCTATGGGATGGATGGAGAG	TCCTCCACTTCCAATTTAGCGCGAGGCACCAAGCTGTAA	1722	BstBI	pred Ct match RNAseq
TGME49_046470	hypothetical protein, conserved	NS	TACTTCCAATCCAATTTAATGCTGCTGCCCTCTCACTG	TCCTCCACTTCCAATTTAGCCAGGACGTTTTCAGGCTGGAG	1846	NheI	Ct doesn't match
TGME49_068010	protein kinase, PfEST homolog	Nucleus	TACTTCCAATCCAATTTAATGCGGATTCAGCCTTCGAGAA	TCCTCCACTTCCAATTTAGCTGCGGGACTTCTGCTTCCCTT	1216	PstI	
TGME49_017690	hypothetical protein	Golgi	TACTTCCAATCCAATTTAATGCAGAAAGTCCGGGAGAACA	TCCTCCACTTCCAATTTAGCTTCTGCTTCCCACTTCTTCC	1337	BglII/MluI	
TGME49_091670	RNA helicase, putative	Apicoplast	TACTTCCAATCCAATTTAATGCATTTGGGAACTTCGGTGT	TCCTCCACTTCCAATTTAGCAATTTTATAGGCAATTCGCTTCT	1370	EcoRV	
TGME49_014560	hypothetical protein	Nucleus	TACTTCCAATCCAATTTAATGCCACCCGGCGCGGTTCTG	TCCTCCACTTCCAATTTAGCGGATGGTGTTCGCCAGATCC	1083	NruI/BstBI	
TGME49_061680	hypothetical protein	Nucleus	TACTTCCAATCCAATTTAATGCTTTCAGGCCCGCAAG	TCCTCCACTTCCAATTTAGCGGCTCAAGTCCCGGAGTGA	1956	PstI	
TGME49_105800	hypothetical protein, conserved	Vesicles	TACTTCCAATCCAATTTAATGCCGCTGCTGTTGGTGG	TCCTCCACTTCCAATTTAGCAACCTCTCCGAAAAGATG	984	XcmI	pred Ct match RNAseq
TGME49_113640	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCCCTGTTTCCCTGGCCGT	TCCTCCACTTCCAATTTAGCGGAGCCACTGTTTCTTGT	584	SnaBI	pred Ct match RNAseq
TGME49_036530	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCATGCTGCTGCTGCTGTAAG	TCCTCCACTTCCAATTTAGCGGACTGTGCGCTCCCGGCT	925	NruI	Ct doesn't match
TGME49_067050	hypothetical protein	Cytosol	TACTTCCAATCCAATTTAATGCTGCTGCTGCTGCTGTAAG	TCCTCCACTTCCAATTTAGCGGCTTCTTGCAGCTGAGGC	1235	NruI	
TGME49_049310	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCTTTTGGAGCGGGGAAC	TCCTCCACTTCCAATTTAGCTTCAAGAAAGTCCCGGAGCC	1383	PstI	pred Ct match RNAseq, UTR longer
TGME49_001270	hypothetical protein	Apicoplast	TACTTCCAATCCAATTTAATGCCGAGGTGGTTCGTTAGG	TCCTCCACTTCCAATTTAGCACAACAACCTGATATCTTT	1574	StuI	
TGME49_046770	hypothetical protein	Nucleus	TACTTCCAATCCAATTTAATGCAGCAGGTGCCCGAAC	TCCTCCACTTCCAATTTAGCCGAGCGGTTTAGACGGGC	1692	BstBI	

CC - Cannot be Cloned

NS - No Signal detected in IFA with stably transfected parasites

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TGME49_032440	hypothetical protein	ER	TACTTCCAATCCAATTTAATGCAATGGCGCTCTGCGGAAG	TCCTCCACTTCCAATTTAGCCTCCCTCCGTGCTTCTGCGTC	918	SnaBI	pred Ct match RNAseq
TGME49_091810	hypothetical protein	See fig	TACTTCCAATCCAATTTAATGCGAGTGTACGTACGCAGGC	TCCTCCACTTCCAATTTAGCATTGTTGTCCGACTCGTCATC	1931	XcmI	
TGME49_085510	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCGAGCCAGACTTCGTTGIGA	TCCTCCACTTCCAATTTAGCGGCTCCCGGATTCGGGCGCA	1187	MluI	pred Ct match RNAseq
TGME49_054520	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCGTTCGGCGTTACTGTGCT	TCCTCCACTTCCAATTTAGCAGAGCCTGGCGCCGAGTCTG	493	PshAI	pred Ct match RNAseq, UTR longer
TGME49_020600	hypothetical protein, conserved	Vesicles	TACTTCCAATCCAATTTAATGCACTGCACCATCCCTCGT	TCCTCCACTTCCAATTTAGCGGCCATCTCGACAGCATGCG	1991	NheI	pred Ct match RNAseq
TGME49_033340	hypothetical protein	ER	TACTTCCAATCCAATTTAATGCGGACAACCTGGGTGCGC	TCCTCCACTTCCAATTTAGCCTTACTTTTCACACTCCGATC	897	PstI/MluI	pred Ct match RNAseq, UTR longer
TGME49_024150	hypothetical protein	Golgi	TACTTCCAATCCAATTTAATGCAACAGAGGGCGGCGGT TCCTCG	TCCTCCACTTCCAATTTAGCCACATCGAGAAGCAGAGCGA CAICTCC	1040	NruI	
TGME49_039320	hypothetical protein, conserved	Apicoplast	TACTTCCAATCCAATTTAATGCAACAGAAGGGTGTATGG ACCTGGCG	TCCTCCACTTCCAATTTAGCGTCTGAGGCCTCTGCATGAAT AGCC	1281	MluI	
TGME49_047410	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCTGCGTGTATTTCTTTGGG	TCCTCCACTTCCAATTTAGCCACTCGGTACCGATCTTGCTT	1418	PstI	pred Ct match RNAseq, UTR longer
TGME49_084620	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCAAGTACACCTGGCTGAA	TCCTCCACTTCCAATTTAGCGTCTGCTTTTCGGACCTTTC	1539	StuI	Ct doesn't match
TGME49_002440	hypothetical protein	Apicoplast	TACTTCCAATCCAATTTAATGCCTCTGGACCGAATCCGGA GAAGACC	TCCTCCACTTCCAATTTAGCCTGGGGTTCTCAGTGTCCG GTTTACG	1485	PstI	
TGME49_016630	hypothetical protein, conserved	Vesicles	TACTTCCAATCCAATTTAATGCTGCAGATCCCTGATGGAG GGTTGCC	TCCTCCACTTCCAATTTAGCCTCGTCTCCGGTTTGAGGG GAGGTGG	1642	MluI	pred Ct match RNAseq, UTR longer
TGME49_059230	hypothetical protein	Apicoplast	TACTTCCAATCCAATTTAATGCGCTCGCAGACTTGCTGG CCTG	TCCTCCACTTCCAATTTAGCGACATTGAAGTCTTCAGGC CTTCTTTG	1276	MluI	
TGME49_024570	hypothetical protein	NS	TACTTCCAATCCAATTTAATGCGCTGCACAGGCGC	TCCTCCACTTCCAATTTAGCAGAAACAGTCAGGAAGTGA AAAGTTC	931	BmgBI	pred Ct match RNAseq, UTR longer
TGME49_082150	hypothetical protein	Apicoplast	TACTTCCAATCCAATTTAATGCCAGGGCGTCCAGCCGCC GGTCCC	TCCTCCACTTCCAATTTAGCTCCACAGCCTCTTGACGTC	1250	XcmI	

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