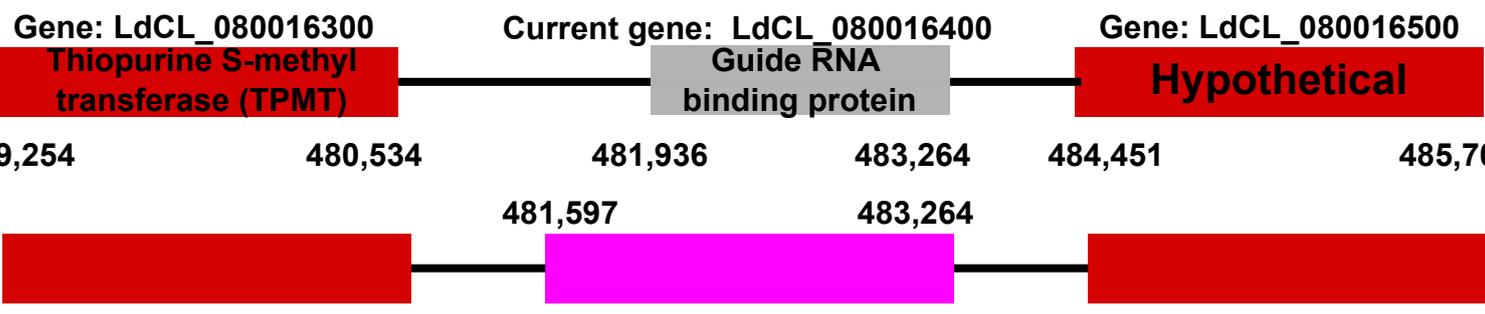


Supplementary Figure 1 Promastigote life stage

A N-terminal extension 1: Guide RNA binding protein

Leishmania donovani CL_SL Chromosome 08 (Positive strand)

Current Annotation

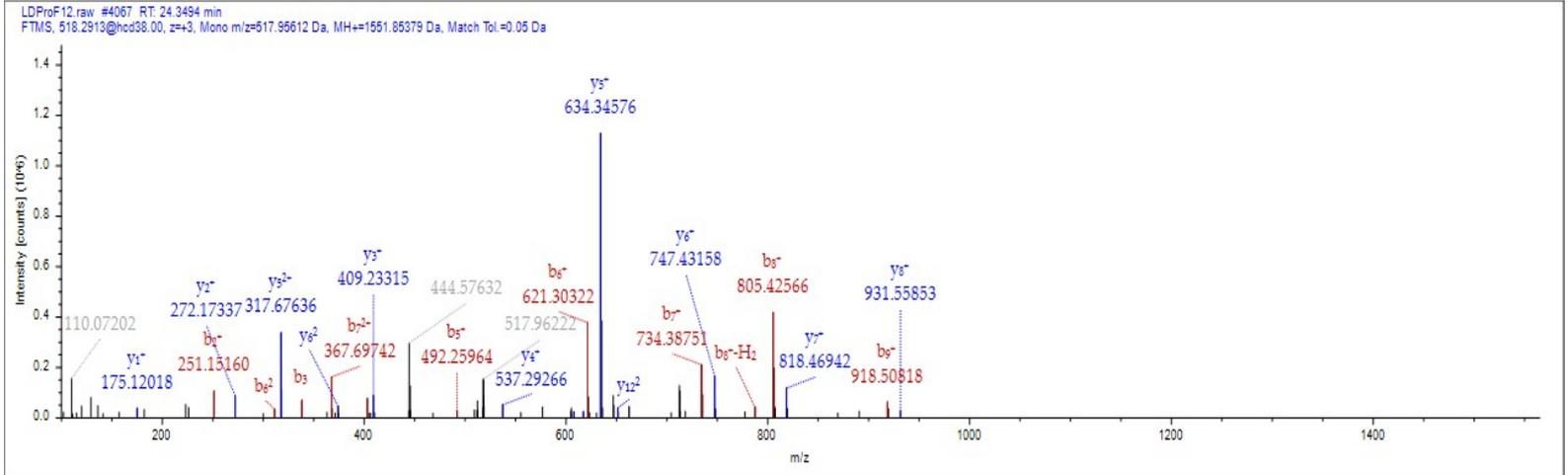


B

N-terminal_1	MRGLGVLGLRGVPTRRPWLCDVARRSGDISMCSTASTSYRSQATSAGGTPPLPPPTSSPV	60
LdCL_080016400	-----	
LTRL590_080015100	MRGLGVLGLRGAPTRRPWLCDVARRSGNISMCSTASTSYRSQATSAGGTPPLPPPTSSPV	60
N-terminal_1	PAPAVDNTLFHNSAAVHGTIPFGRHLS PGELALPQH PRGSHLSARNIATEALQMKKLHQE	120
LdCL_080016400	-----M KKL HQE	7
LTRL590_080015100	PAPAGDNTLFHNSAAGHGTIPFGRHLS PGELALPQH PRGSHLSARNIATEALQMKKLHQE	120

N-terminal_1	RGGNPMLAQQARRVLFATSITGQNIDARSVALLLNTAVYFGMESDARVVRECIDFCLKND	180
LdCL_080016400	RGGNPMLAQQARRVLFATSITGQNIDARSVALLLNTAVYFGMESDARVVRECIDFCLKND	67
LTRL590_080015100	RGGNPMLAQQARRVLFATSITGQNIDARSIALLLNTAVYFGMESDARVVRECIDFCLKND	180
	*****:*****	
N-terminal_1	KFISLDIMPVVVTACATLKS RDAREVIELQAIKATKNARFLDAKGVTNII SAFSKTGINH	240
LdCL_080016400	KFISLDIMPVVVTACATLKS RDAREVIELQAIKATKNARFLDAKGVTNII SAFSKTGINH	127
LTRL590_080015100	KFISLDIMPVVVTACATLKS RDAREVIELQAIKATRNARFLDAKGVTNII SAFSKTGINH	240
	*****:*****	
N-terminal_1	EKLFGLLSMRVQTLARVGEFEAAHLVILANAFARLRFREQHVFGAIARRAMSLRERVTVN	300
LdCL_080016400	EKLFGLLSMRVQTLARVGEFEAAHLVILANAFARLRFREQHVFGAIARRAMSLRERVTVN	187
LTRL590_080015100	EKLFGLLSMRVQTLARVGEFEAAHLVILANAFARLRFREQHVFSAIARRAMSLRERVTVN	300
	*****.*****	
N-terminal_1	ELVPLINAFSKAGLKDPKLSKRFRAGKAMEYVDQMNAEQVAMMFQAFAYFGIRYDQLFGVL	360
LdCL_080016400	ELVPLINAFSKAGLKDPKLSKRFRAGKAMEYVDQMNAEQVAMMFQAFAYFGIRYDQLFGVL	247
LTRL590_080015100	ELVPLISAFSKAGLKDPKLSKRFRAGKAMEYVDQMNAEQVAMMFQAFAYFGIRYDQLFGVL	360
	*****.*****	
N-terminal_1	TNRAVELIDEFNAQYISTTLASFQORIGINNPELFDNLAERALAVVQDHDAKDIALTVTAL	420
LdCL_080016400	TNRAVELIDEFNAQYISTTLASFQORIGINNPELFDNLAERALAVVQDHDAKDIALTVTAL	307
LTRL590_080015100	TNRAVELIDEFNAQYISTTLASFQORIGINNPELFDNLAERALAVVQDHDAKDIALTVTAL	420

C HLSPGELALPQHPR

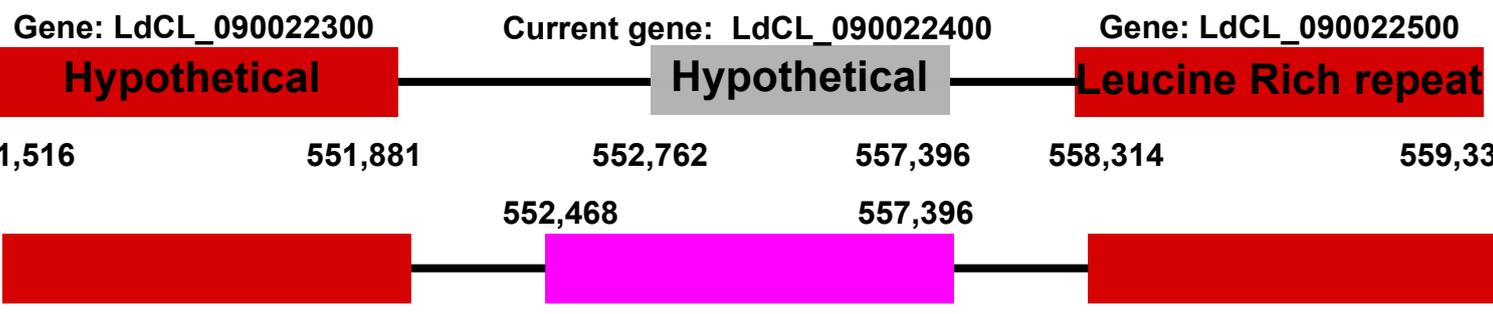


Supplementary Figure 2 Promastigote life stage

A N-terminal extension 2: Hypothetical protein

Leishmania donovani CL_SL Chromosome 09 (Negative strand)

Current Annotation



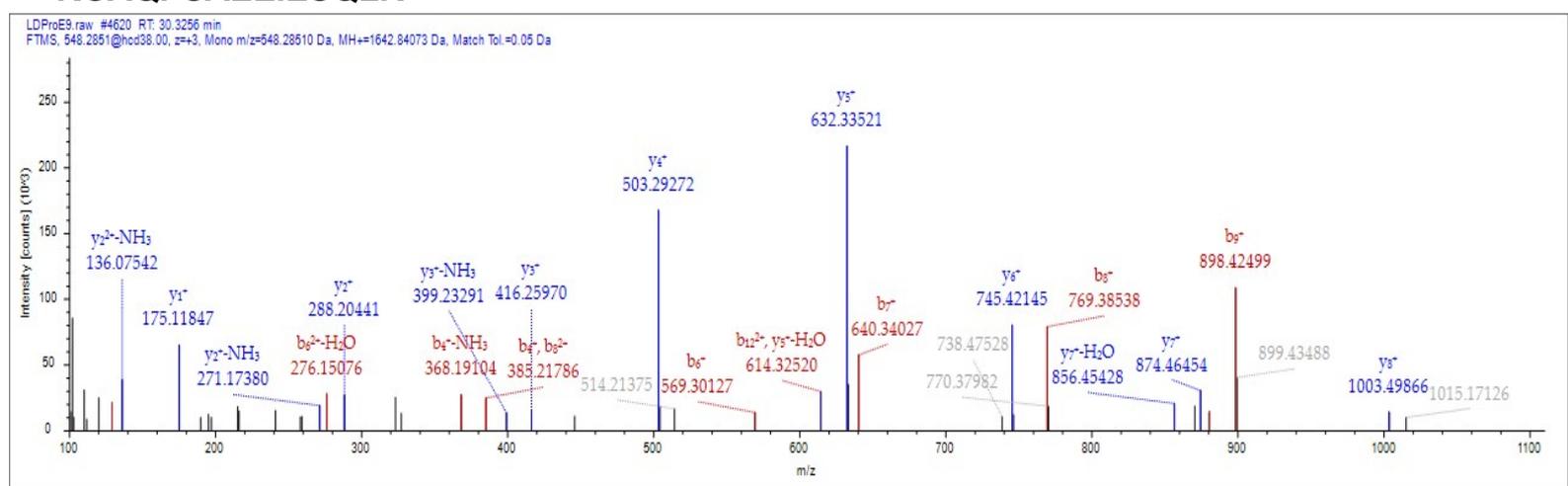
B

N-terminal_2	MVLFFCVEKPARKDGGKGDRAEAKDEEPTWSTFENRIAVIYEAR KGAQPSAEEIESQL	60
LdCL_090022400	-----	
LTRL590_090022500	MVFFFCVEKPARKDGGKGDRAEGKDEDPTWSTFENRIAVIIDARKGAQPSAEEIESQL	60
N-terminal_2	RVAQYPLTPRFFATPLDGI VDGGDEQEATALQWVFEDIMQCVQRRENITLVHRGVHVEAH	120
LdCL_090022400	-----MQCVQRRENITLVHRGVHVEAH	22
LTRL590_090022500	RVAQYPLTPRFFATPLDGVVDGGDEQEATALQWVFEDIMQCVQRRENITLVHRGVHVEAH	120

N-terminal_2	LEPILVAFLOAVRSSAEYGMQVADEIAKEK QMQRL LQMNVAVEVDATEARGIKVHERD	180
LdCL_090022400	LEPILVAFLOAVRSSAEYGMQVADEIAKEK QMQRL LQMNVAVEVDATEARGIKVHERD	82
LTRL590_090022500	LEPILIAFLOAIRSSAEYGMQVADEIAKEK QMQRL LQMNVAVEVDATEARGTKVRERD	180
	*****:*****:*****	
N-terminal_2	IARQGGGSVQLSKELRKKIAKLRQ EYHYV HPADRQAAAVNRYGLITAAHNDLLKPPHIDS	240
LdCL_090022400	IARQGGGSVQLSKELRKKIAKLRQ EYHYV HPADRQAAAVNRYGLITAAHNDLLKPPHIDS	142
LTRL590_090022500	IARQGGDSVQLSKELRKKIAKLRQ EYHYV HPADRQAAAADRYGLITAAHNDLLKPPHIDS	240
	*****.*****:*****	
N-terminal_2	SLLMPQAF AASPPANR ATRASMATSLMAAKNARSH TAIF NQLQRRNTAGLLSELREQESG	300
LdCL_090022400	SLLMPQAF AASPPANR ATRASMATSLMAAKNARSH TAIF NQLQRRNTAGLLSELREQESG	202
LTRL590_090022500	SLLMPQAF AASAPVNR TTRASMAASLMAAKNARSH TAIF NQLQRRNTARLLSELRDQESD	300
	*****.*.**:*****:*****	
N-terminal_2	GDCEPIRGNGWGDKITLYTFD GVSSVM ALPGIPNFDEVVRELALDFWLRTDLKPVDGKRV	360
LdCL_090022400	GDCEPIRGNGWGDKITLYTFD GVSSVM ALPGIPNFDEVVRELALDFWLRTDLKPVDGKRV	262
LTRL590_090022500	GDCEPIRGNGWGDKITLYTFD GVSSVM ALPGIPNFDEVVRELALDFWVRTDLKPVDGKRV	360
	*****:*****	
N-terminal_2	LIQIMEGQREDVGQ LQFQ LSLNWYEDMPDSVR VIIR DSANRVLEAVASVAKAGLTDGTFNH	420
LdCL_090022400	LIQIMEGQREDVGQ LQFQ LSLNWYEDMPDSVR VIIR DSANRVLEAVASVAKAGLTDGTFNH	322
LTRL590_090022500	LIQIMEGQREDVGQ LQFQ LSLNWYEDMPDS IRVIIR DSANRVLEAVASVAKAGLTDGTFKH	420
	*****:*****:*****	

C

KGAQPSAEEIESQLR



Supplementary Figure 3 Promastigote life stage

A N-terminal extension 3: RNA helicase

Leishmania donovani CL_SL Chromosome 09 (Negative strand)

Current Annotation

Gene: LdCL_090005700 Current gene: LdCL_090005800 Gene: LdCL_090005900



14,521 14,916 16,989 20,693 22,086 22,823



B

N-terminal_3	MGPNRQRKPPNPGRGGRGAAAPAGASAKATPSMITNAGR DLIIDVLHHAATGGSV VPVSE	60
LdCL_090005800	-----	
LdBPK_090090.1	MGPNRQRKPPNPGRGGRGAAAPAGASAKATPSMITNAGRDLIIDVLHHAATGGSV	60
N-terminal_3	K HFDAKISSRVTFQRNAPLMPSEILQRLYEGLGFPRDLVTQYLTDLAQAAEVPTFSDVTE	120
LdCL_090005800	-----MPSEILQRLYEGLGFPRDLVTQYLTDLAQAAEVPTFSDVTE	41
LdBPK_090090.1	KHFDAKISSRVTFQRNAPLMPSEILQRLYEGLGFPRDLVTQYLTDLAQAAEVPTFSDVTE	120

N-terminal_3	LLDEAGPFQSFLVCSCFELFNCMTWFSREKSDDKVSPEEGDAILENEIATIESLFSDSFL	180
LdCL_090005800	LLDEAGPFQSFLVCSCFELFNCMTWFSREKSDDKVSPEEGDAILENEIATIESLFSDSFL	101
LdBPK_090090.1	LLDEAGPFQSFLVCSCFELFNCMTWFSREKSDDKVSPEEGDAILENEIATIESLFSDSFL	180

N-terminal_3	GRKHFDDEDTNERELYFGFCTSYEKQLLVVVRFPDYYPTEPPAIYVQPLRRSSPESLPSL	240
LdCL_090005800	GRKHFDDEDTNERELYFGFCTSYEKQLLVVVRFPDYYPTEPPAIYVQPLRRSSPESLPSL	161
LdBPK_090090.1	GRKHFDDEDTNERELYFGFCTSYEKQLLVVVRFPDYYPTEPPAIYVQPLRRSSPESLPSL	240

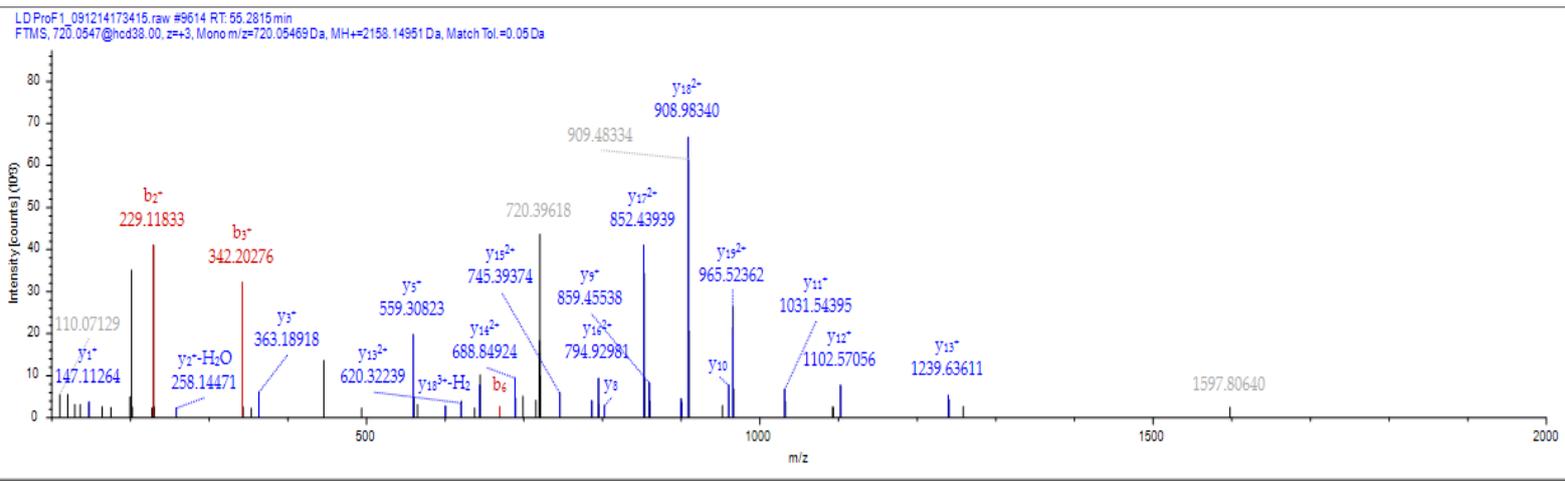
N-terminal_3	VVAPSCTKDISAVDRRAIMDAAVQAINGFVGGGLMVLISAIHGAVSSMKEVRPASSTPP	300
LdCL_090005800	VVAPSCTKDISAVDRRAIMDAAVQAINGFVGGGLMVLISAIHGAVSSMKEVRPASSTPP	221
LdBPK_090090.1	VVAPSCTKDISAVDRRAIMDAAVQAINGFVGGGLMVLISAIHGAVSSMKEVRPASSTPP	300

N-terminal_3	LDRDAAAKERSAVQQQRKAFLGALTGNRVANREDIEEAAEDEEDRFIQVSMPEKVELATV	360
LdCL_090005800	LDRDAAAKERSAVQQQRKAFLGALTGNRVANREDIEEAAEDEEDRFIQVSMPEKVELATV	281
LdBPK_090090.1	LDRDAAAKERSAVQQQRKAFLGALTGNRVANREDIEEAAEDEEDRFIQVSMPEKVELATV	360

N-terminal_3	DAASASRETQRRDFLVSDAALDVTLKSSWEKLTGSLRKARDSLPAHSVRETTLRAALQK	420
LdCL_090005800	DAASASRETQRRDFLVSDAALDVTLKSSWEKLTGSLRKARDSLPAHSVRETTLRAALQK	341
LdBPK_090090.1	DAASASRETQRRDFLVSDAALDVTLKSSWEKLTGSLRKARDSLPAHSVRETTLRAALQK	420

C

DLIIDVLHHAATGGSVVPVSEK

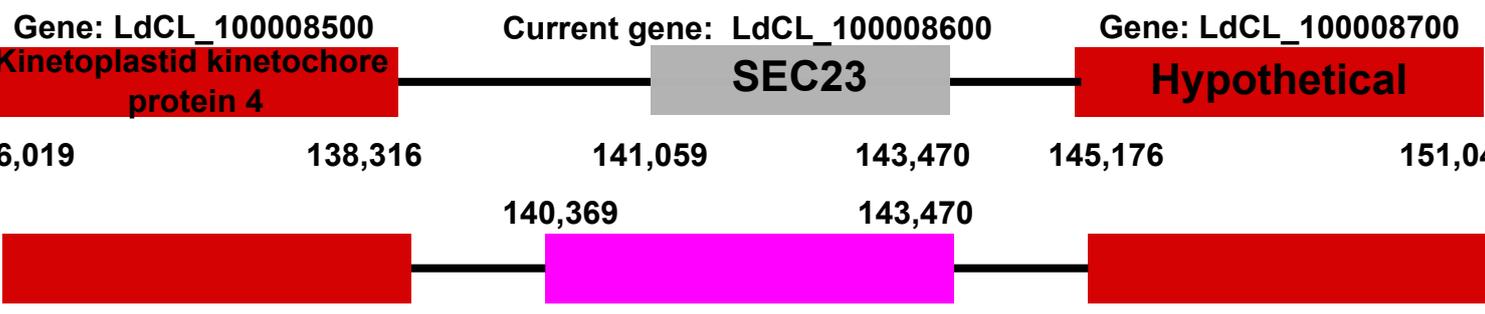


Supplementary Figure 4 Promastigote life stage

A N-terminal extension 4: Protein transport protein SEC23

Leishmania donovani CL_SL Chromosome 10 (Positive strand)

Current Annotation



B

N-terminal_4	MNQGYNTYYSQGTPQGGAYGSSANYYGAAAAPAGGVGSGYGAQAQPQPQAQQVGAYGV	60
LdCL_100008600	-----	
LdBPK.10.2.000330	MNQGYNTYYSQGTPQGGAYGSSANYYGAAAAPAGGVGSGYGAQAQPQPQAQQVGAYGV	60
N-terminal_4	AQATSAGSWSNTYQGLGEYHSGVATAAPTSSPSQGYGGGAATTTASSFQVGYDGYAQGA	120
LdCL_100008600	-----	
LdBPK.10.2.000330	AQATSAGSWSNTYQGLGEYHSGVATAAPTSSPSQGYGGGAATTTASSFQVGYDGYAQGA	120
N-terminal_4	TAAATNNGGVAAGVSNNGSYAGVTAMNAYDPQSTQPAQQPPYPPQPQGGYYGNANACQAN	180
LdCL_100008600	-----	
LdBPK.10.2.000330	TAAATNNGGVAAGVSNNGSYAGVTAMNAYDPQSTQPAQQPPYPPQPQGGYYGNANACQAN	180
N-terminal_4	STPAAAAAPAPAVLNTTDDNGLR WTW SCYPTTSKAKTKENPSAATLAMP	240
LdCL_100008600	-----	10
LdBPK.10.2.000330	STPAAAAAPAPAVLNTTDDNGLR WTW SCYPTTSKAKTKENPSAATLAMP	240

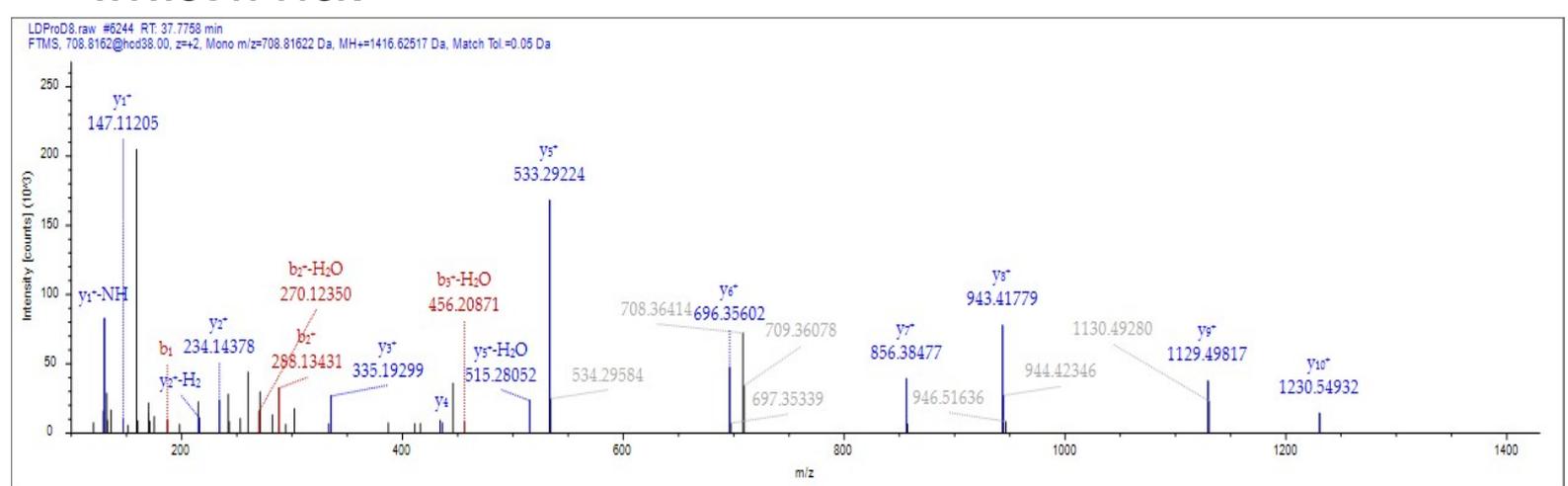
N-terminal_4	PLHLIEPSHLVVGAAIDELCCANCGAFCSMHSQREMKGWVCVSKRRNSFQSN	300
LdCL_100008600	-----	70
LdBPK.10.2.000330	PLHLIEPSHLVVGAAIDELCCANCGAFCSMHSQREMKGWVCVSKRRNSFQSN	300

N-terminal_4	HPALMYETVEFVLNPPTPVAPPQPQPAPAFIFVVDTCIPSGEMASLRTSLLES	360
LdCL_100008600	-----	130
LdBPK.10.2.000330	HPALMYETVEFVLNPPTPVAPPQPQPAPAFIFVVDTCIPSGEMASLRTSLLES	360

N-terminal_4	RNALVGLISFGATVSVWELGASSGVAISKCYLLRGNTANPPDSLQSM	420
LdCL_100008600	-----	190
LdBPK.10.2.000330	RNALVGLISFGATVSVWELGASSGVAISKCYLLRGNTANPPDSLQSM	420

C

WTWSCYPTTSK

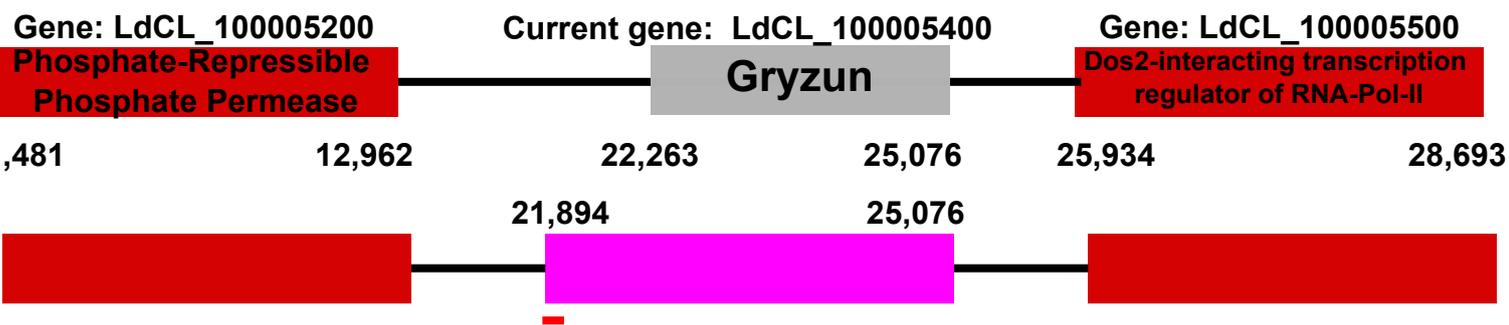


Supplementary Figure 5 Promastigote life stage

A N-terminal extension 5: Gryzun

Leishmania donovani CL_SL Chromosome 10 (Positive strand)

Current Annotation

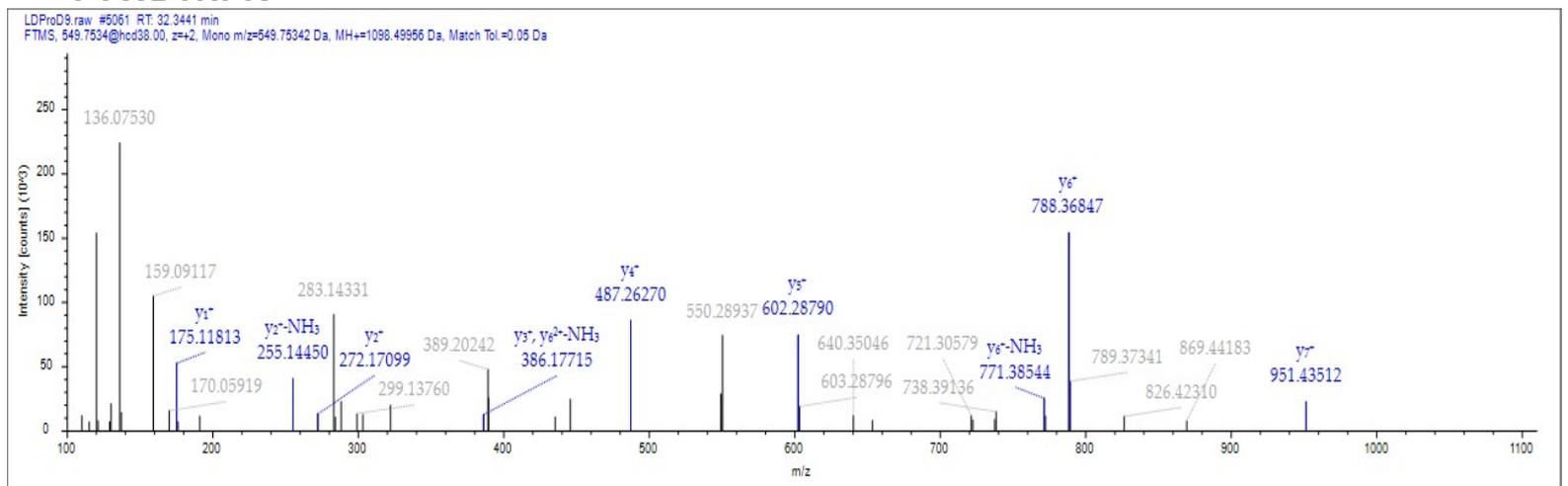


B

N-terminal_5	MNFLTGIYSDASYR FYWDTNPR FCVAAVASHVEDAEKVSQVLQQVSPRMTIVCTDKIVLD	60
LdCL_100005400	-----	
LAEL147_000130900	MNVLSGIYSDASYRFYWDTNPRFCVATVASHVEDAEKVSQVLQQVSPRMTIVCTDKIGLD	60
N-terminal_5	TSRKAASSDASQLLRSDWCVKRQKSVFSCIVLVCFLDRLGVNVTAAKLSEELVLCIGAS	120
LdCL_100005400	-----	
LAEL147_000130900	TSRKEASSDASQLLRSDWCLKRQTSVFSCIVLVCFLDRLGVNATAAKLSEELVLCIGAS	120
N-terminal_5	VESMRCDVVFAPVAESTADSNEELRDSIEKSLRSLGSRLAGSVLQTIENGVWRGIAALQ	180
LdCL_100005400	---MRCDVVFAPVAESTADSNEELRDSIEKSLRSLGSRLAGSVLQTIENGVWRGIAALQ	57
LAEL147_000130900	LESMRCDVVFAPVVESTAESKEELRDSIEKSLRSLGSRLAGSALQTIENGVWRGIAALQ	180
	*****.****:*:*****.*****	
N-terminal_5	SLVFDSTVAYHKGEVRRRLDRKEMLNDDSDQRRALPGLHFKIGWHYLVLHNFSSARQQML	240
LdCL_100005400	SLVFDSTVAYHKGEVRRRLDRKEMLNDDSDQRRALPGLHFKIGWHYLVLHNFSSARQQML	117
LAEL147_000130900	SLVFDSTFAYHKGEVRRRLDRKEMLNDDSDQRLALPGLHFKVGVWHYLVLHNFSSARQQML	240
	*****.*****:*****	
N-terminal_5	SGLRKIKTLFPLEPSPFEARLCGCVFLWHFLFCISVSEGHLSSESSEVYQEIRCFVDWIGTA	300
LdCL_100005400	SGLRKIKTLFPLEPSPFEARLCGCVFLWHFLFCISVSEGHLSSESSEVYQEIRCFVDWIGTA	177
LAEL147_000130900	SGLRKIKTLFPLEPSPFEARLCGSVFLWHFLFCISVSEGHLSSESSEVYQEIRCFVDWIGTA	300
	*****.*****:*****	
N-terminal_5	YGGSVKDECQTVVLVLTQVMEAEWLEYLARKTENLMARQCCDYLVASAQALQDCDAFFPS	360
LdCL_100005400	YGGSVKDECQTVVLVLTQVMEAEWLEYLARKTENLMARQCCDYLVASAQALQDCDAFFPS	237
LAEL147_000130900	YGGSVKDECQTVVLVLTQVMEAEWLEYLARKTENLEARQCCDYLVAAAQALQDCDAFLPS	360
	*****.*****:*****:*	

C

FYWDTNPR

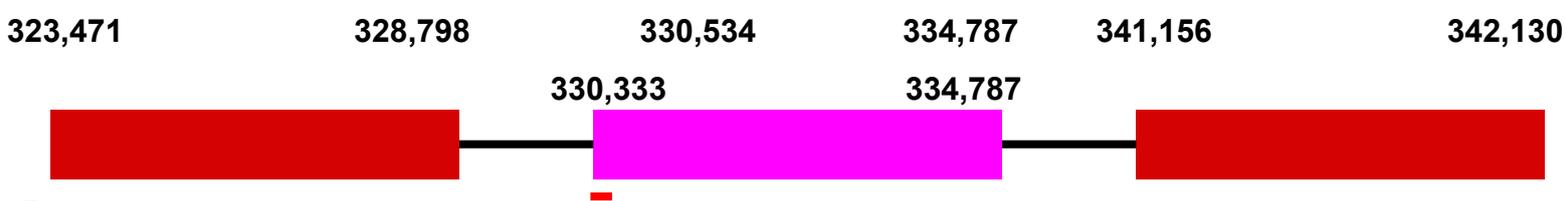


Supplementary Figure 6 Promastigote life stage

A N-terminal extension 6: Kinesin

Leishmania donovani CL_SL Chromosome 11 (Positive strand)

Current Annotation



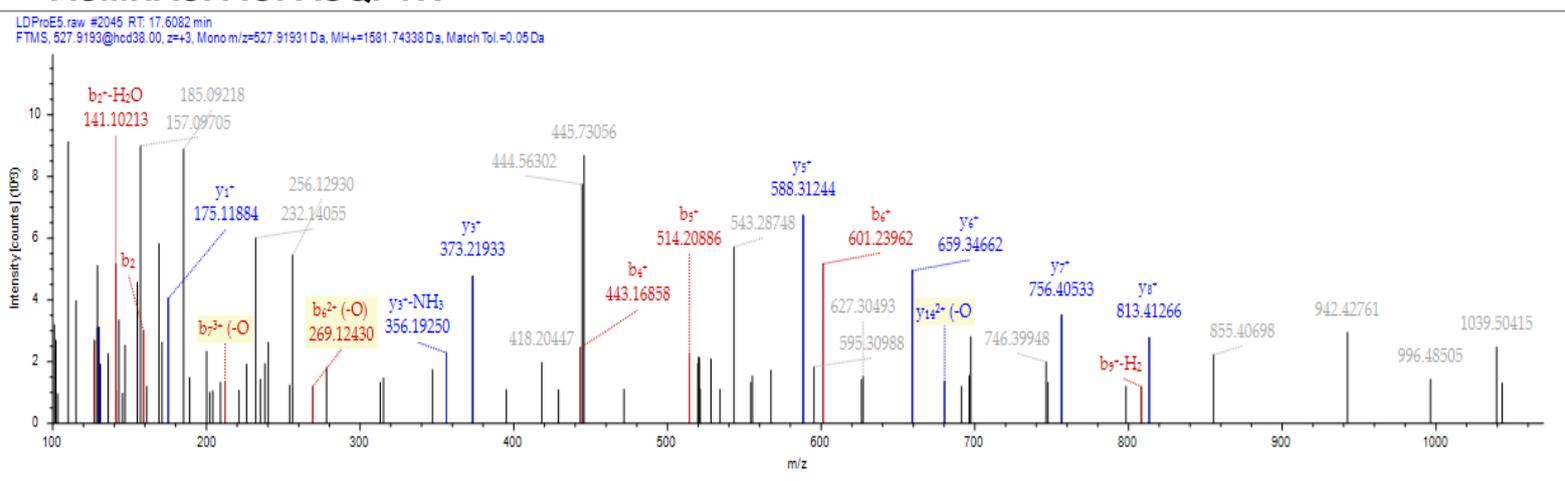
B

N-terminal_6	MSGSPLNSSLQPALTASDEAVINEGVSVVVRVRPLSTKERADARVHNCIKLPCDCVIIDG	60
LdCL_110014100	-----	
LAEL147_000155500	MSGSPLSSSLQPALTASDEAVINEGVSVVVRVRPLSTKERADARVHNCIKLPCDCVIIDG	60
N-terminal_6	SAHARASMHAS PAGPASQPTR ATTRPYQFSVDQVFENTHASQIEVYEQSCKRIVEGIFHGI	120
LdCL_110014100	-----MHAS PAGPASQPTR ATTRPYQFSVDQVFENTHASQIEVYEQSCKRIVEGIFHGI	53
LAEL147_000155500	SAHARASMHAS PAGPASQPTR ATTRPYQFSVDQVFENTHASQIEVDQ SCKRIVEGIFHGI	120
	*****:*****	
N-terminal_6	NGSILAYGATGSGKTHTMFGSTMSAAGIVYQAVQDIFAEKERLEEEEGKRVRIKCSFLEV	180
LdCL_110014100	NGSILAYGATGSGKTHTMFGSTMSAAGIVYQAVQDIFAEKERLEEEEGKRVRIKCSFLEV	113
LAEL147_000155500	NGSILAYGATGSGKTHTMFGSTMSAAGIVYQAVQDIFAEKERLEEEEGKRVRIKCSFLEV	180

N-terminal_6	YNEDVFDLLARPVGEGSGGAKSLASSGAGASGREAKRVPLQVREAPDTTASASAGFDAGE	240
LdCL_110014100	YNEDVFDLLARPVGEGSGGAKSLASSGAGASGREAKRVPLQVREAPDTTASASAGFDAGE	173
LAEL147_000155500	YNEDVFDLLARPVGEGSGGAKSLANSAGTSGREAKRVPLQVREASDTTASASAGFDAGE	240
	*****.***:*****.*****	
N-terminal_6	GGGINNGGLHIRGLTHIFPETFEDFARSIEHGHTQRFVAATGANAQSSRS HAIITVEVEV	300
LdCL_110014100	GGGINNGGLHIRGLTHIFPETFEDFARSIEHGHTQRFVAATGANAQSSRS HAIITVEVEV	233
LAEL147_000155500	GGGINNGGLHVRGLTHIFPETFEDFARSIEHGHTQRFVAATGANAQSSRS HAIITVEVEV	300
	.****:*****:*****	
N-terminal_6	RHSNTCANVGDVGFASAVDDDADAAETATEFSPTKKAAKRKKRPLTSTVTI AKIQFADLA	360
LdCL_110014100	RHSNTCANVGDVGFASAVDDDADAAETATEFSPTKKAAKRKKRPLTSTVTI AKIQFADLA	293
LAEL147_000155500	RHSNTCANVGD LGFASAVDDDADAAEATTEFSPTKKAAKRKKRPLTSTVTI AKIQFADLA	360
	*****:*****:*****	

C

ASMHAS**PAGPASQPTR**



Supplementary Figure 7 Promastigote life stage

A N-terminal extension 7: Tyrosyl or methionyl-tRNA synthetase

Leishmania donovani CL_SL Chromosome 16 (Positive strand)

Current Annotation

Gene: LdCL_160016700

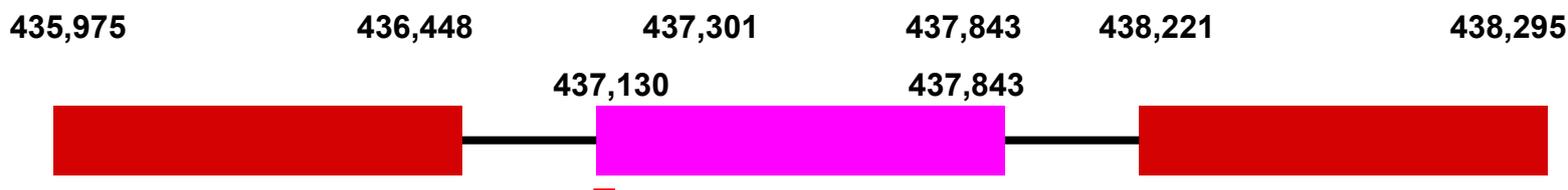
Current gene: LdCL_160016800

Gene: LdCL_160016900

Hypothetical

Tyrosyl or methionyl-
tRNA synthetase

ncRNA



B

N-terminal_6	MASHAEGR LLRRSVPYVESWIAELTPKPVASAAGAAPAPKGKAKGGAASTGTENATAMSR	60
LdBPK.16.2.001170	MASHAEGRLLRRSVPYVESWIAELTPKPVASAAGAAPAPKGKAKGGAASTGTENATAMSR	60
LdCL_160016800	-----MSR	3

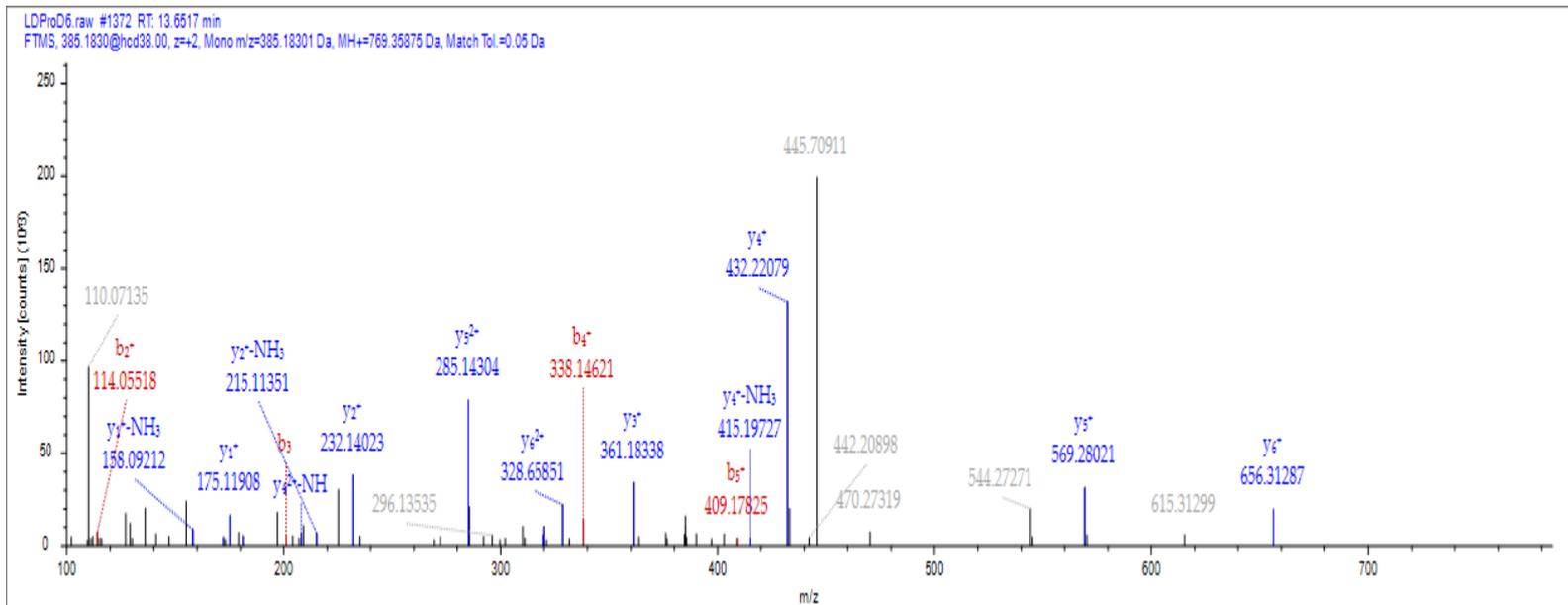
N-terminal_6	CCFAVGKVLEVSRHPESEKLYIEKIDLGAE LNMLS NNEPRTILSGLQEFVKEEDFVNRLV	120
LdBPK.16.2.001170	CCFAVGKVLEVSRHPESEKLYIEKIDLGAE LNMLS NNEPRTILSGLQEFVKEEDFVNRLV	120
LdCL_160016800	CCFAVGKVLEVSRHPESEKLYIEKIDLGAE LNMLS NNEPRTILSGLQEFVKEEDFVNRLV	63

N-terminal_6	LVIANLEPRKIGGIPSAGMVLCASTGEDPHDPALAGQGERKVLLDIPEGTAVGERVVFE	180
LdBPK.16.2.001170	LVIANLEPRKIGGIPSAGMVLCASTGEDPHDPALAGQGERKVLLDIPEGTAVGERVVFE	180
LdCL_160016800	LVIANLEPRKIGGIPSAGMVLCASTGEDPHDPALAGQGERKVLLDIPEGTAVGERVVFE	123

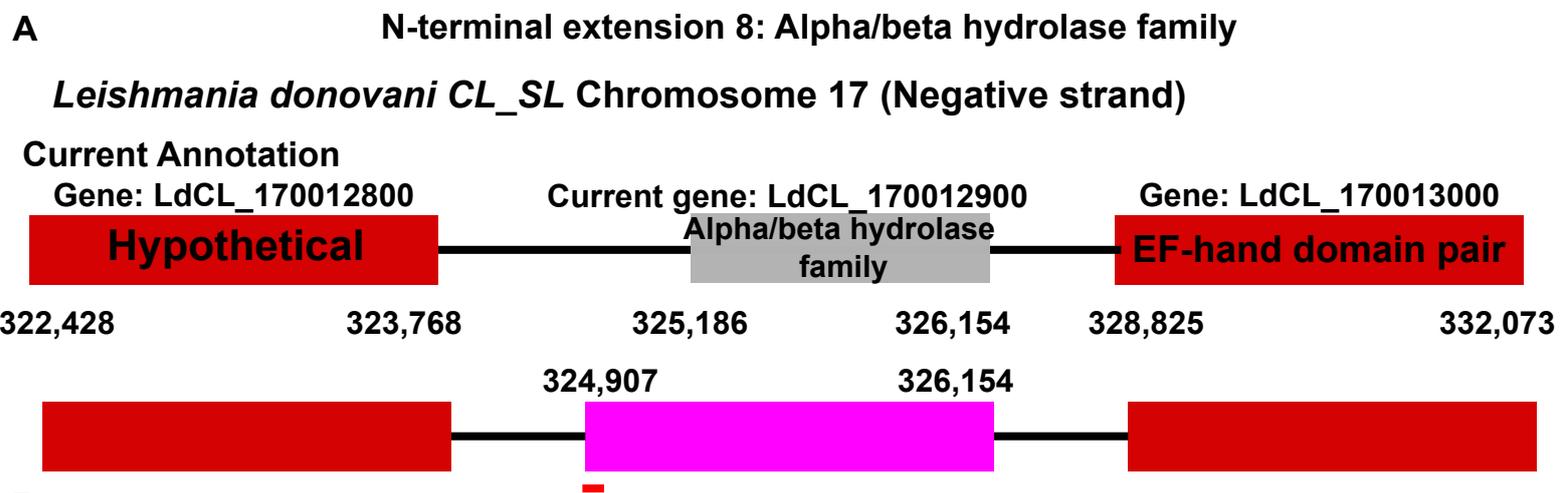
N-terminal_6	GHDMPYEPVLKKKLAKNFEEVMKDVCSADGVVCWQGKPFQTSAGVIKASLCNARIS	237
LdBPK.16.2.001170	GHDMPYEPVLKKKLAKNFEEVMKDVCSADGVVCWQGKPFQTSAGVIKASLCNARIS	237
LdCL_160016800	GHDMPYEPVLKKKLAKNFEEVMKDVCSADGVVCWQGKPFQTSAGVIKASLCNARIS	180

C

MASHAEGR



Supplementary Figure 8 Promastigote life stage

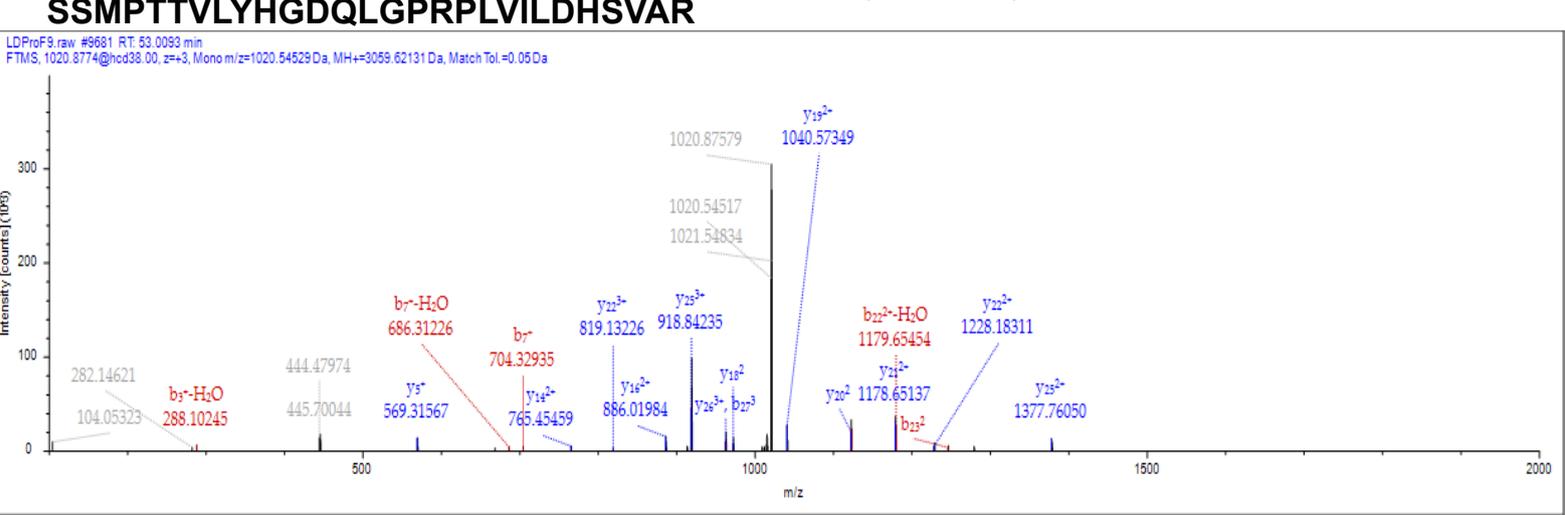


B

N-terminal_8	MRSVRWMRRAAGAVSGDAATALSAGASKPAAATASTSGMVSSRNEGMGGVPPPPAPPVN	60
LdCL_170012900	-----	
LAEL147_000248200	MRSVRWMRRAAGAASGDAATAPSAGASKPAATTASTSGIDASRKEGMGGVPPPLPAPPVN	60
N-terminal_8	GARRTIGSTKAWHTLTFRPWQLHTVKDAEAR SSMPTTVLYHGDQLGPRPLVILDHSVARL	120
LdCL_170012900	-----MPTTVLYHGDQLGPRPLVILDHSVARL	27
LAEL147_000248200	GAGRTTGSTKAWHTLTFRLWQLHTVKDGEARSSMPTTVLYHGDQLGPRPLVILDHSVARL	120

N-terminal_8	EQSATAVLDACQEAAKRYEAMLSSLAWDHGAVFVPLQVSI GEINVMEQSCRHVCAVL DAM	180
LdCL_170012900	EQSATAVLDACQEAAKRYEAMLSSLAWDHGAVFVPLQVSI GEINVMEQSCRHVCAVL DAM	87
LAEL147_000248200	EQSATAVLDACQEAVKRYEAMLSSLAWDHGAVFVPLQVSI GEISVMEQSCRHVCAVL DAM	180
	***** . ***** . *****	
N-terminal_8	DVQWSHVLAHSYGALVAARMAASTAYPHRIGSLLLLDTPLVTEQLVRNTKQREEIAKARK	240
LdCL_170012900	DVQWSHVLAHSYGALVAARMAASTAYPHRIGSLLLLDTPLVTEQLVRNTKQREEIAKARK	147
LAEL147_000248200	DVQWSHVLAHSYGALVAARMAASTAYPHRIGSLLLLDTPLVTEQLVRNTKQREEIAKARK	240

N-terminal_8	DVNVPPAELSFAIESLRSALEATLPYPAAADKSLYEDHLFS-ASVFREKGLVRDEHRYVP	300
LdCL_170012900	DVNVPPAELSFAIESLRSALEATLPYPAAADKSLYEDHLFS-ASVFREKGLVRDEHRYVP	207
LAEL147_000248200	DVNVPPAELSFAIESLRSALETTLPYPAAADKSLYEDHLFSSASVFREKGLVRDEHRYVP	300
	***** : ***** *****	
N-terminal_8	VRHLAQVHHPLQLLVVKQPITDVAIHKEFFGLRRPTVIKTADNHEDLLSAKCADEVADV	360
LdCL_170012900	VRHLAQVHHPLQLLVVKQPITDVAIHKEFFGLRRPTVIKTADNHEDLLSAKCADEVADV	267
LAEL147_000248200	VRHLAQVHHPLQLLVVKQPITDVAIHREFFGLRRPTVIKTADNHEDLFSKACADEVADV	360
	***** : ***** : *****	
N-terminal_8	VRAWMQRFEPDVVMKRRFEKAAKEMAQLMGSSAPFGEKDDGNTKK-SEKKEKKKGRQ	416
LdCL_170012900	VRAWMQRFEPDVVMKRRFEKAAKEMAQLMGSSAPFGEKDDGNTKK-SEKKEKKKGRQ	324
LAEL147_000248200	VRAWMQRFEPDVVMKRRFEKAAKEMVQLMGSSASFGEKDDGNTEKKS AKKEKKKGRQ	417
	***** . ***** . ***** : * * *****	

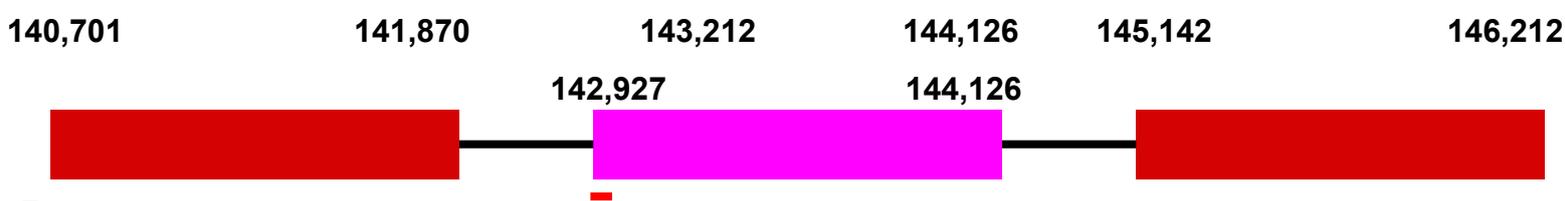
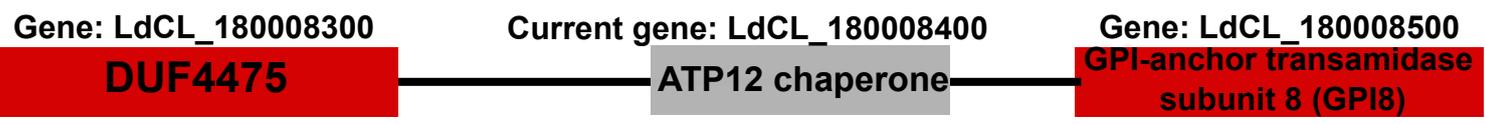


Supplementary Figure 9 Promastigote life stage

A N-terminal extension 9: ATP12 chaperone

Leishmania donovani CL_SL Chromosome 18 (Negative strand)

Current Annotation



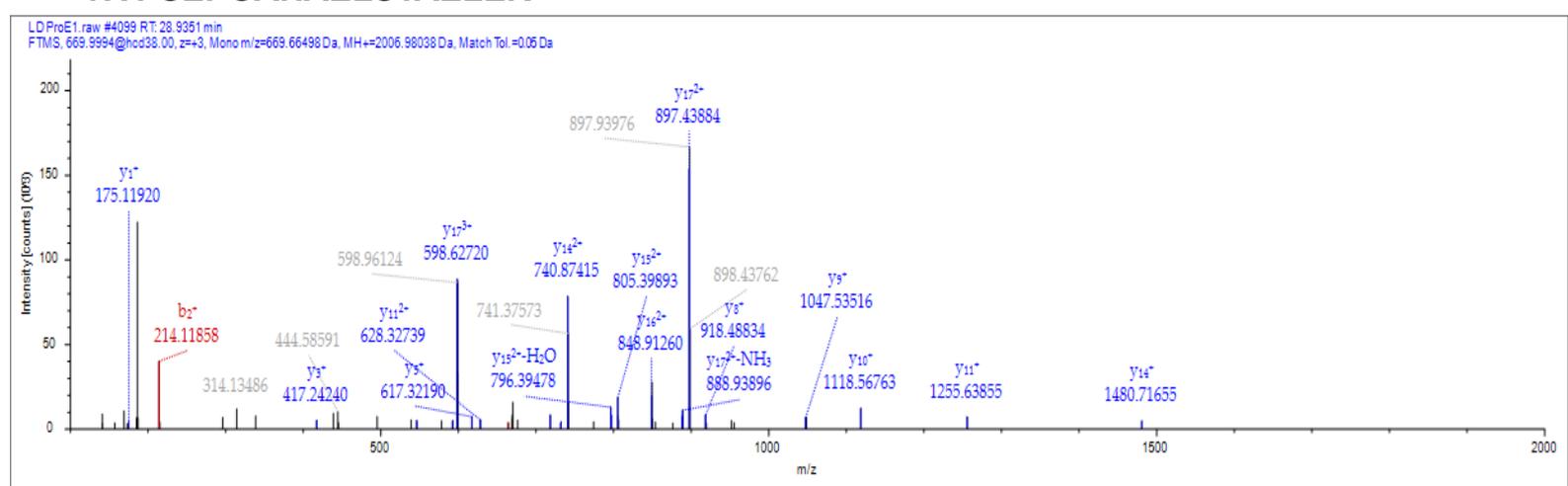
B

N-terminal_9	MRPFTLAKGAAPRQLLAVAI A AARMSVSSSTPAEPSTPAGASQATAATGPTVAPKKPRRR	60
LdCL_180008400	-----	
LGELEM452_180008600	MRPFTLATGAAPRQLLAVAI A TARMSVSSSTPAEPSTPGGASQAEAATGPTVAPKRPRRR	60
N-terminal_9	IASKLDASALLK NVPSEPGAHAELSTAELER KVEEMSRMNSKQLEEVMRKFEEQENESSR	120
LdCL_180008400	-----MSRMNSKQLEEVMRKFEEQENESSR	25
LGELEM452_180008600	ITSKLDASALLKNVPSEPGAHAELSTAELERKVEEMSRMNSKQLEEVMRKFEEQENESSR	120
	**** : *****	
N-terminal_9	VLSEDSLYQMEVSLKPRSSGAVRVFWKDVDVVELEGRYIGWFAVTVDGRKVKAMKSSQVL	180
LdCL_180008400	VLSEDSLYQMEVSLKPRSSGAVRVFWKDVDVVELEGRYIGWFAVTVDGRKVKAMKSSQVL	85
LGELEM452_180008600	VLSEDSLYQMEVSLKPRSSGAVRVFWKDVDVVELED RYPGWFAVTVDGRKVKAMKSSQVL	180
	***** . * *****	
N-terminal_9	AVPSEAMACCCAQEYAEQTGYINQLLMPMSDICS GALHIAPQMLTPRIDYLLSFFQNDNL	240
LdCL_180008400	AVPSEAMACCCAQEYAEQTGYINQLLMPMSDICS GALHIAPQMLTPRIDYLLSFFQNDNL	145
LGELEM452_180008600	AVPSEAMACCCAQEYAEQTGHINQLLMPMSDICS GALHIAPQMLTPRIDYLLSFFQSDNL	240
	***** : ***** . ***	
N-terminal_9	YFRAAPIAAKQDAMIAPI IAWFERVYEMDVPRVVGIGDPHITPHATAKMRDALIAMNMNP	300
LdCL_180008400	YFRAAPIAAKQDAMIAPI IAWFERVYEMDVPRVVGIGDPHITPHATAKMRDALIAMNMNP	205
LGELEM452_180008600	YFRAAPIAAKQDAMIAPI IAWFERVYEMDVPRVVGIGDPHITPHATAKMRDALIAMNMNP	300

N-terminal_9	YQVLAMCVTAQFTSSLLLPLALFSGVVDLPTTLAINRAEEQHSISEAGLVAGYHDIREAD	360
LdCL_180008400	YQVLAMCVTAQFTSSLLLPLALFSGVVDLPTTLAINRAEEQHSISEAGLVAGYHDIREAD	265
LGELEM452_180008600	YQVLAMCVTAQFTSSLLLPLALFSGVVDLPTALAINRAEEQHSISEAGLVAGYHDIREAD	360
	***** : *****	
N-terminal_9	AVTKICACAMTWKLMKDVPLAKCLEMPRAASAVEEEAEI	399
LdCL_180008400	AVTKICACAMTWKLMKDVPLAKCLEMPRAASAVEEEAEI	304
LGELEM452_180008600	AVTKICACAMTWKLMKDVPLAKCLEMPRAASAMEEEAEV	399
	***** : ***** :	

C

NVPSEPGAHAELSTAELER



Supplementary Figure 11 Promastigote life stage

A N-terminal extension 11: Hypothetical protein

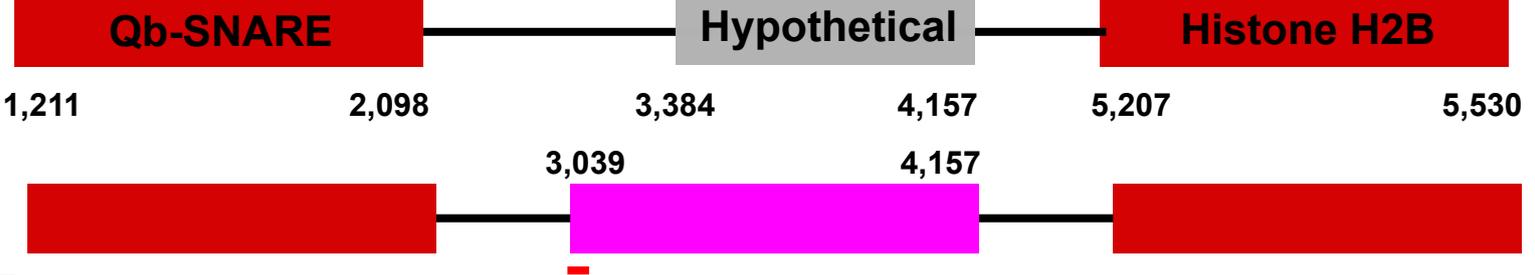
Leishmania donovani CL_SL Chromosome 19 (Negative strand)

Current Annotation

Gene: LdCL_190005000

Current gene: LdCL_190005100

Gene: LdCL_190005200



B

N-terminal_11	MSAGPKPEPR QAPRERNSPKPPTANSSSAPAERPQRRRDNAERREGGERGERGDRRRDRPE	60
LdCL_190005100	-----	
LINF_190005100	MSAGPKPEPRQAPRERNSPKPPTANSSSAPAERPQRRRDNAERREGGERGERGDRRRDRPE	60
N-terminal_11	RQERPRRPQAGLAAAERSKPATEEKAHGPFVHVKGDIASGSTWAKNGSGPSFADMVRQR	120
LdCL_190005100	-----	
LINF_190005100	RQERPRRPQAGLAAVERSKPATEEKAHGPFVHVKGDIASGSTWAKNGSGPSFADMVRQR	120

N-terminal_11	TSVGAGALAAKETPSPLKGAQSQVRTPPPPPEPPQSQPESVQQSVPAQPEESSEEEVVVN	180
LdCL_190005100	-----	
LINF_190005100	TSVGAGALAAKETPSPLKGAQSQVRTPPPPPEPPQSQPESVQQSVPAQPEESSEEEVVVN	180

N-terminal_11	TVQAPAVMEMEPIPEPPAPVALVIAPHYVLEIERVSVKLPPrVTQTAETQRGLYMFSAQ	240
LdCL_190005100	-----	
LINF_190005100	TVQAPAVMEMEPIPEPPAPVALVIAPHYVLEIERVSVKLPPrVTQTAETQRGLYMFSAQ	240

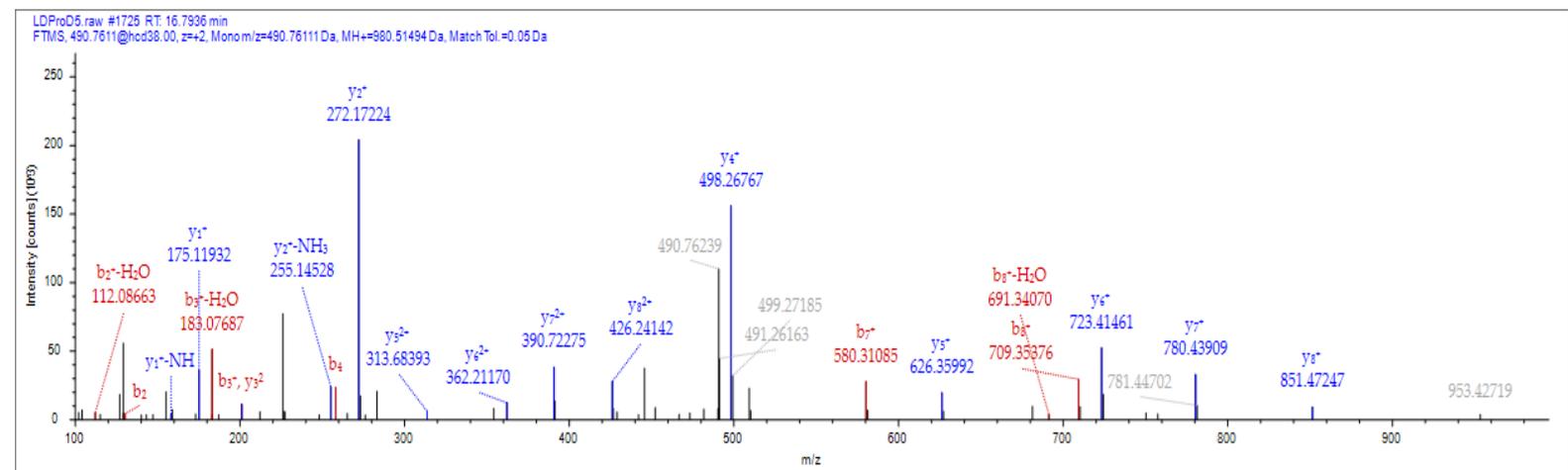
N-terminal_11	AGKPPTPPPTVQQHAVYRPDTANLGRQWSLGTDSRIQQPPQQQHAWPSASQFDYWNNAP	300
LdCL_190005100	-----	
LINF_190005100	AGKPPTPPPTVQQHAVYRPDTANLGRQWSLGTDSRIQQPPQQQHAWPSASQFDYWNNAP	300

N-terminal_11	ERVQASRPFMGTQAQAPYNSYPSAVPLAHQRATGNAPVFRFRSSEVPESALRQOSAVPFN	360
LdCL_190005100	-----	
LINF_190005100	ERVQASRPFMGTQAQAPYNSYPSAVPLAHQRATGNAPVFRFRSSEVPESALRQOSAVPFN	360

N-terminal_11	RASQPTNGGGVW	372
LdCL_190005100	RASQPTNGGGVW	257
LINF_190005100	RASQPTNGGGVW	372

C

MSAGPKPEPR

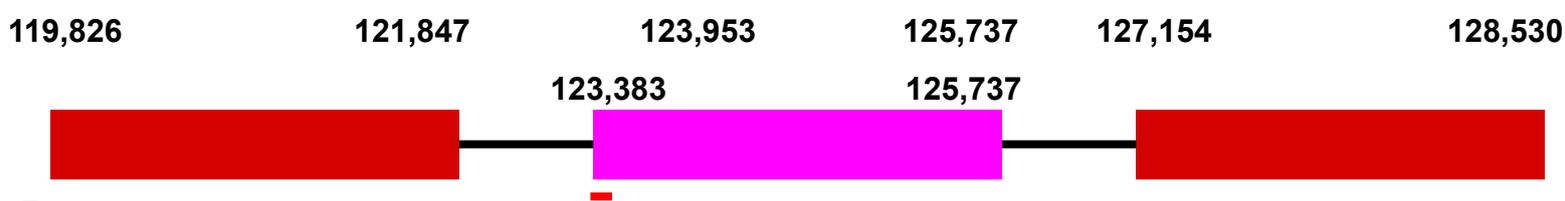


Supplementary Figure 12 Promastigote life stage

A N-terminal extension 12: Intraflagellar transport protein 80

Leishmania donovani CL_SL Chromosome 19 (Positive strand)

Current Annotation



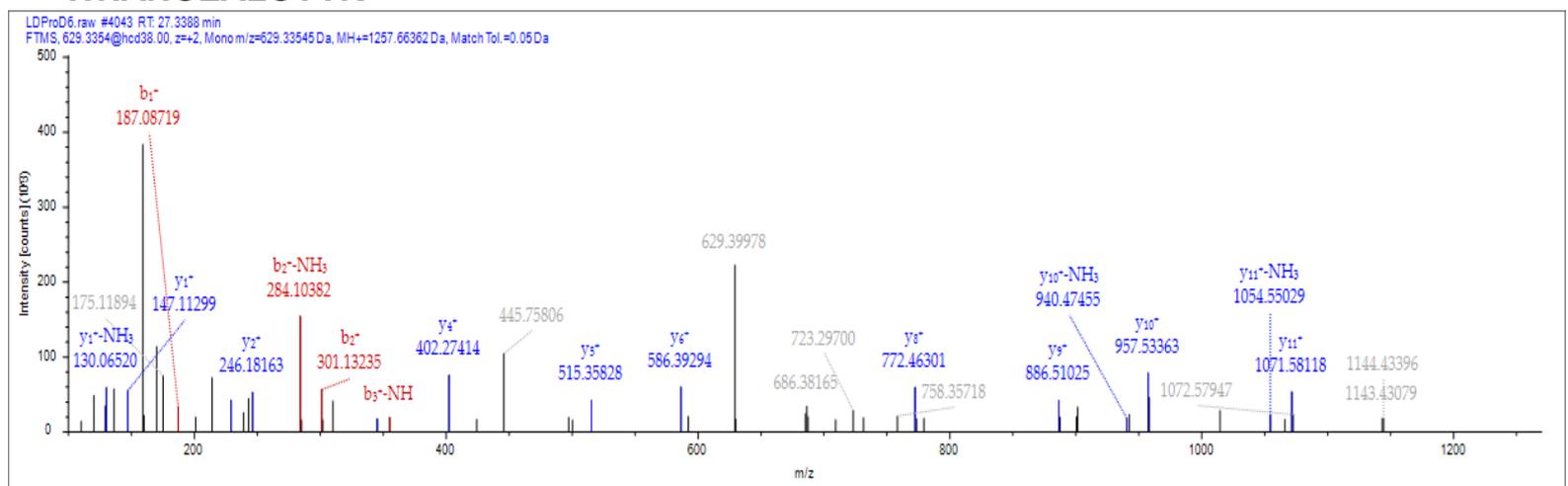
B

N-terminal_12	MRLNITSAKERHGEACTTVAVSLNGDIIISGSDDFTVRR WNANGEALGVVKE FDSCVTFVT	60
LdCL_190008300	-----	
LTRL590_190008000	MRLNITSAKERHGEACTTVAVSLNGDIIISGSDDFTVRR WNANGEALGVVKE FDSCVTFVT	60
N-terminal_12	WVPRVGRGARLARGAAAETREGRDNCVLVACADGSFSFVNTASGRVERTIEAHAGSITAAV	120
LdCL_190008300	-----	
LTRL590_190008000	WVPAVGRGARLARGAAAETREGRDNCVLVACADGSFSFVNTASGRVERTIEAHAGSITAAV	120
N-terminal_12	YPADGSSIIITAGEDGCVKVWSQAGIPRTTLANAGRCINALCWGTEAAELGGDCVLYAVGS	180
LdCL_190008300	-----	
LTRL590_190008000	YAADGSSIIITAGEDGCVKVWSQAGIPRTTLANAGRCINALCWGTEATELGGDCVLYAVGS	180
N-terminal_12	DVVIKPLNPAMKKQIKWKAHKGVVLCADWSRMSGMIVTGGEDGAYKVWDPCGCSIFVSAA	240
LdCL_190008300	----- ----- MKKQIKWKAHKGVVLCADWSRMSGMIVTGGEDGAYKVWDPCGCSIFVSAA	50
LTRL590_190008000	DVVIKPLNPAMKKQIKWKAHKGVVLCADWSRMSGMIVTGGEDGVYKVWDPYGCSIFVAAA	240
	*****.*****	
N-terminal_12	GEHPITSVRFAADGESFAVGSFMNVRVCDKTGWSHSYERTTEGSAMALDWMPDGTQMILG	300
LdCL_190008300	GEHPITSVRFAADGESFAVGSFMNVRVCDKTGWSHSYERTTEGSAMALDWMPDGTQMILG	110
LTRL590_190008000	GEHPITSVRFAADGESFAVGSFMNVRVCDKTGWSHSYERTTEGSAMALDWMPDGTQMILG	300

N-terminal_12	NGTGALSIAQIVDRKVSWGPYVTLLDSRRLTVQDVVKDTVQEIIEADKVIKLELGCYGL	360
LdCL_190008300	NGTGALSIAQIVDRKVSWGPYVTLLDSRRLTVQDVVKDTVQEIIEADKVIKLELGCYGL	170
LTRL590_190008000	NGTGALSIAQIVDRKVSWGPYVTLLDSRRLTVQDVVKDTVQEIIEADKVIKLELGCYGL	360

C

WNANGEALGVVK



Supplementary Figure 13 Promastigote life stage

A N-terminal extension 13: 50S ribosome-binding GTPase/Dynamin family

Leishmania donovani CL_SL Chromosome 22 (Negative strand)

Current Annotation

Gene: LdCL_220009800

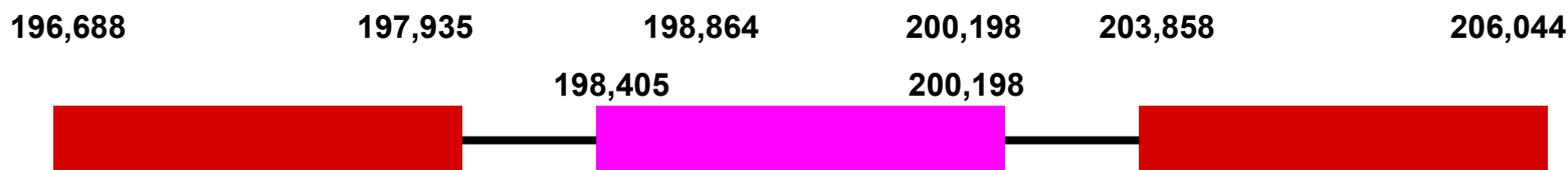
Current gene: LdCL_220009900

Gene: LdCL_220010000

tRNA binding domain

50S ribosome-binding
GTPase/Dynamin family

Protien kinase

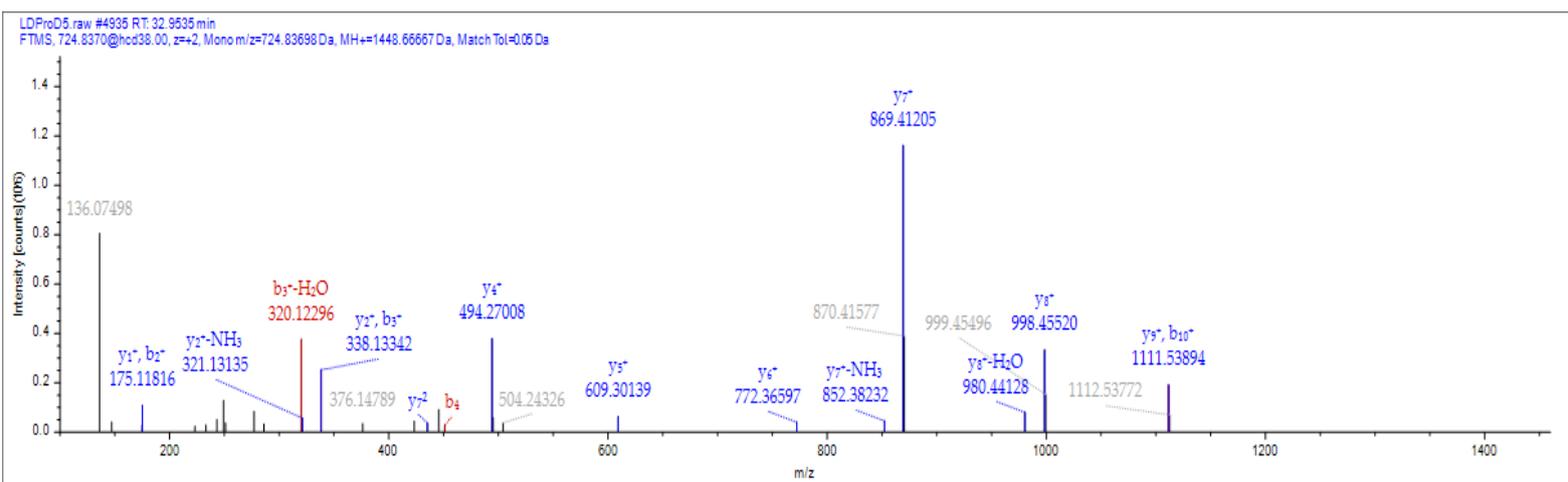


B

N-terminal_13	MYRRLSRVASSQAESRPRTVASAAGWAPTQSFSTAHSPRGSFNNGAVSWLVAASRGLRMH	60
LdCL_220009900	-----	
LGELEM452_220010000	MHRRLSRVASSQADSRLRTVASAAGWVPTQSFSTAHPRGAFNNAVPSLVAASRSLRTN	60
N-terminal_13	TFVMGTPVNRVQRRGYFSNGPHHQEHSVNLDSGTGKATDGSASAALSLSGASSHAAVQ	120
LdCL_220009900	-----	
LGELEM452_220010000	TFVMGTPANRAQRRGYSSSGPHHQEHSVNLDSGAGKAADGSASAALSLSWASSHAAVQ	120
N-terminal_13	AGIEAELQALR SSYLEPYDGVYR FLTPFKSTTPMVMFLGNHSSGKSTLINYLSGCEIQET	180
LdCL_220009900	-----MVMFLGNHSSGKSTLINYLSGCEIQET	27
LGELEM452_220010000	AGIEGELQALR SSYLEPYDGVYR FLTPFKSTTPMVMFLGNHSSGKSTLINYLSGCEVQET	180
	*****:***	
N-terminal_13	GVAPTDDGFTVIKRGTYDMDADGPSVVSNPKYQYQSLQQFGISFVTHFKMKTRAMPATSQ	240
LdCL_220009900	GVAPTDDGFTVIKRGTYDMDADGPSVVSNPKYQYQSLQQFGISFVTHFKMKTRAMPATSQ	87
LGELEM452_220010000	GVAPTDDGFTVIKRGAYDMDADGPSVVSNPKYQYQSLQQFGISFVTHFKMKTRAMPATSQ	240
	*****:*****	
N-terminal_13	IPMDMVLVDTPGMIDTPVHASSAEQAGSGDHTRGYDFLAVTRWFAQQSDVILLMFDPANP	300
LdCL_220009900	IPMDMVLVDTPGMIDTPVHASSAEQAGSGDHTRGYDFLAVTRWFAQQSDVILLMFDPANP	147
LGELEM452_220010000	IPMDMVLVDTPGMIDTPVHASSAEQAGSGDHTRGYDFLGVTRWFAQQSDVILLMFDPANP	300
	*****.*****	
N-terminal_13	GTTGETLDVLTkSLTGyEHKFFLVLNKVDVFEKVTDfARAYGTLcWNLSKVMKMKDIpRV	360
LdCL_220009900	GTTGETLDVLTkSLTGyEHKFFLVLNKVDVFEKVTDfARAYGTLcWNLSKVMKMKDIpRV	207
LGELEM452_220010000	GTTGETLDVLTkSLTGyEHKFFLVLNKVDVFEKVTDfARAYGTLcWNLSKVMKMKDIpRV	360

C

SSYLEPYDGVYR



Supplementary Figure 14 Promastigote life stage

A N-terminal extension 14: Kinesin

Leishmania donovani CL_SL Chromosome 23 (Negative strand)

Current Annotation

Gene: LdCL_230013700

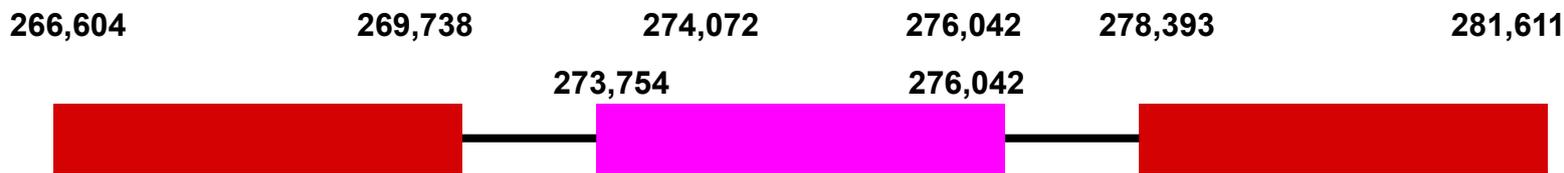
Current gene: LdCL_230013800

Gene: LdCL_230013900

UBA1

Kinesin

MYCBP



B

N-terminal_14	MLNGEPRLIQAPKRLKGRGAGRGTARDGYGDTTPYRGPTSARPTTPVRSGRKAARSPLQPR	60
LdCL_230013800	-----	
LAEL147_000359800	MLNGEPRLIQAPKRRKNGAGRGTARDGYGDTTPYRGLTSARPTTPVRSRGPKAARSPLQPR	60
N-terminal_14	LQNPDRNLTTEDAAEGTEAFKNRVSEITSFRVVSRRVRFPIKEELAEMEGQERRSVVEMTN	120
LdCL_230013800	-----MEGQERRSVVEMTN	14
LAEL147_000359800	LQNSDRNLTSDDAAVGTEAFKNRVSEITSFRVVSRRVRFPIKEELAEMEGQERRSVVEMTN	120

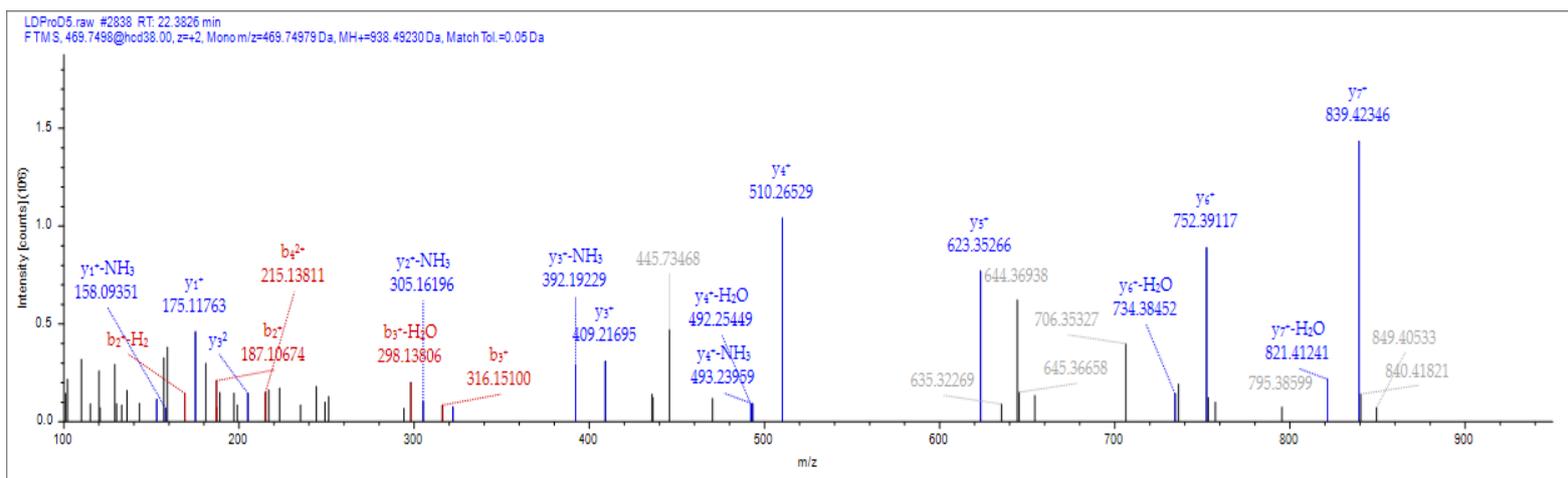
N-terminal_14	TKTILLDPKDGWAPKAQDFDASLWSIPPTRHIVHTFQDTKHKTYATQKDVYNLIAKDLV	180
LdCL_230013800	TKTILLDPKDGWAPKAQDFDASLWSIPPTRHIVHTFQDTKHKTYATQKDVYNLIAKDLV	74
LAEL147_000359800	TKTILLDPKDGWAPKAQDFDASLWSIPPTRHIVHTFQDTKHKTYATQKDVYNLIAKDLV	180

N-terminal_14	PHVFNGFNCSILTYGQTGSGKTYTMMGLYDPNASC GGDGEEGIIPRVSNDIFIIKERME	240
LdCL_230013800	PHVFNGFNCSILTYGQTGSGKTYTMMGLYDPNASC GGDGEEGIIPRVSNDIFIIKERME	134
LAEL147_000359800	PHVFNGFNCSILTYGQTGSGKTYTMMGLYDPNASC GGDGEEGIIPRVSNDIFIIKERME	240

N-terminal_14	EEAKTRPPDRRTKFRVEVSFVEIYMERVRDLLDPALRHTRGNERLQDARIRQDPYSGPFV	300
LdCL_230013800	EEAKTRPPDRRTKFRVEVSFVEIYMERVRDLLDPALRHTRGNERLQDARIRQDPYSGPFV	194
LAEL147_000359800	EEAKTRPPDRRTKFRVEVSFVEIYMERVRDLLDPALRHTRGNEHLQDARIRQDPYSGPFV	300
	***** : *****	
N-terminal_14	EGVTKYEVENWAQCCTLLERGSQHRTTCATAVHNQSSRSHAI FQLTVVQE QVVPGNKYA	360
LdCL_230013800	EGVTKYEVENWAQCCTLLERGSQHRTTCATAVHNQSSRSHAI FQLTVVQE QVVPGNKYA	254
LAEL147_000359800	EGVTKYEVEDWTQCCTLLERGSQHRTTCATAVHNQSSRSHAI FQLTVVQE QVVPGNKYA	360
	***** : * : *****	

C

VSEITSFR



Supplementary Figure 15 Promastigote life stage

A N-terminal extension 15: Cyclin 10

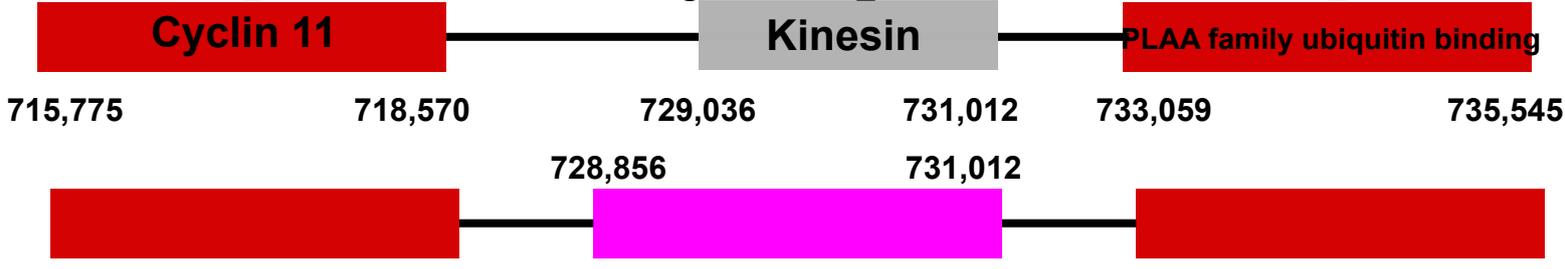
Leishmania donovani CL_SL Chromosome 24 (Negative strand)

Current Annotation

Gene: LdCL_240025200

Current gene: LdCL_240025300

Gene: LdCL_240025400

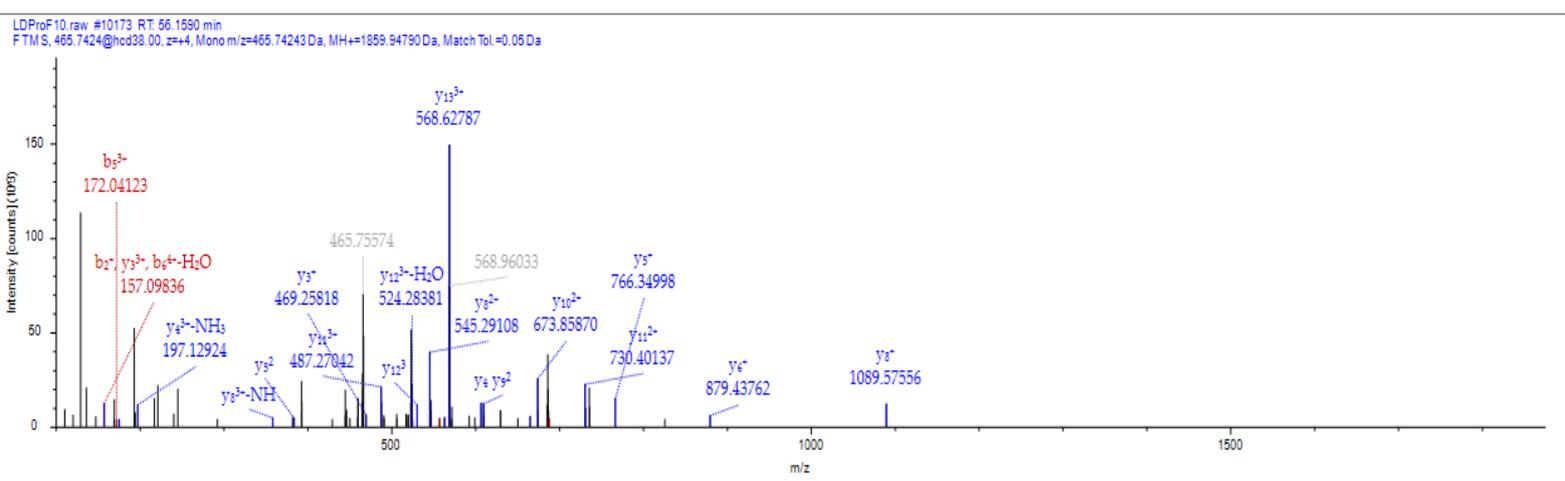


B

N-terminal_15	MVQNGR NHAGDANNHSSSHTEDGNTSRVYSPRLSPA VPPRGVDEIEKPLICHFFRKPST	60
LdCL_240025300	-----	
LAEL147_000394600	MVQNGR NHAGDANSHSSSHAEDGNTSRAYYPPRLSPA APPRGVDEIEKPLICHFFRKPSP	60
N-terminal_15	MQIGLAGCNSSLHTSPSSGSAAGSGFYGARGQEAASATVDSSGANGLCAGATMLSPSAT	120
LdCL_240025300	MQIGLAGCNSSLHTSPSSGSAAGSGFYGARGQEAASATVDSSGANGLCAGATMLSPSAT	60
LAEL147_000394600	MQIGLAGCNSSLHTSPNSGSAAGSGFYGARGQEAASATVNSSGTNGLCAGATMLSPSAT	120
	*****.*****:****:***:*****	
N-terminal_15	PTLPLPSTMDEPVDLFP LTPSVSMPQRH SKRSGRLLNESETMQEKHGQ EYRFLVPWLAY	180
LdCL_240025300	PTLPLPSTMDEPVDLFP LTPSVSMPQRH SKRSGRLLNESETMQEKHGQ EYRFLVPWLAY	123
LAEL147_000394600	PTLPLPSTMDEPVDLLP LTPSVSMPQRH SKRSGRLLNESETMQEKHGQ EYRFLVPWLAY	180
	*****:*****	
N-terminal_15	AIDCTIAAHEVLRQKHGIPAHVSSPASPSATTLNGATDAERSPRGSVNGGLTCANTTGSS	240
LdCL_240025300	AIDCTIAAHEVLRQKHGIPAHVSSPASPSATTLNGATDAERSPRGSVNGGLTCANTTGSS	180
LAEL147_000394600	AIDCTIAAHEVLRQKHGIPAHVSSPASPSANTLNGATDAKRSPRGSANGGPTCADTAGSS	240
	*****.*****:*****.*** ***:*:***	
N-terminal_15	SSGSGKATLPSPOAELNAFSTREVP AISVHDYLKRIVKYTYVSPSVLVCGCLYLDRLLCM	300
LdCL_240025300	SSGSGKATLPSPOAELNAFSTREVP AISVHDYLKRIVKYTYVSPSVLVCGCLYLDRLLCM	240
LAEL147_000394600	S-GSGQAALPSPOAELNAFSTREVP AISVHDYLKRIVKYTYVSPSVLVCGCLYLDRLLCM	300
	* ***:*:*****	
N-terminal_15	HPCMLLHPYNVFKLFLTSTRMASKIMDTRTLN NHDFS VVGVTNDDLNALEFLMV ELLQN	360
LdCL_240025300	HPCMLLHPYNVFKLFLTSTRMASKIMDTRTLN NHDFS VVGVTNDDLNALEFLMV ELLQN	300
LAEL147_000394600	HPCMLLHPYNVFKLFLTSTRMASKIMDTRTLN NHDFS VVGVTNDDLNALEFLMV ELLQN	360

C

GVDEIEKPLICHFFR



Supplementary Figure 16 Promastigote life stage

A N-terminal extension 16: Hypothetical protein

Leishmania donovani CL_SL Chromosome 28 (Negative strand)

Current Annotation

Gene: LdCL_280008500

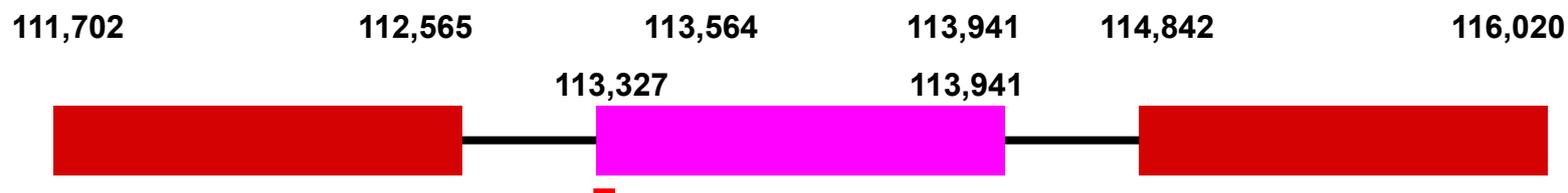
Current gene: LdCL_280008600

Gene: LdCL_280008700

Ubiquitin activating enzyme

Hypothetical

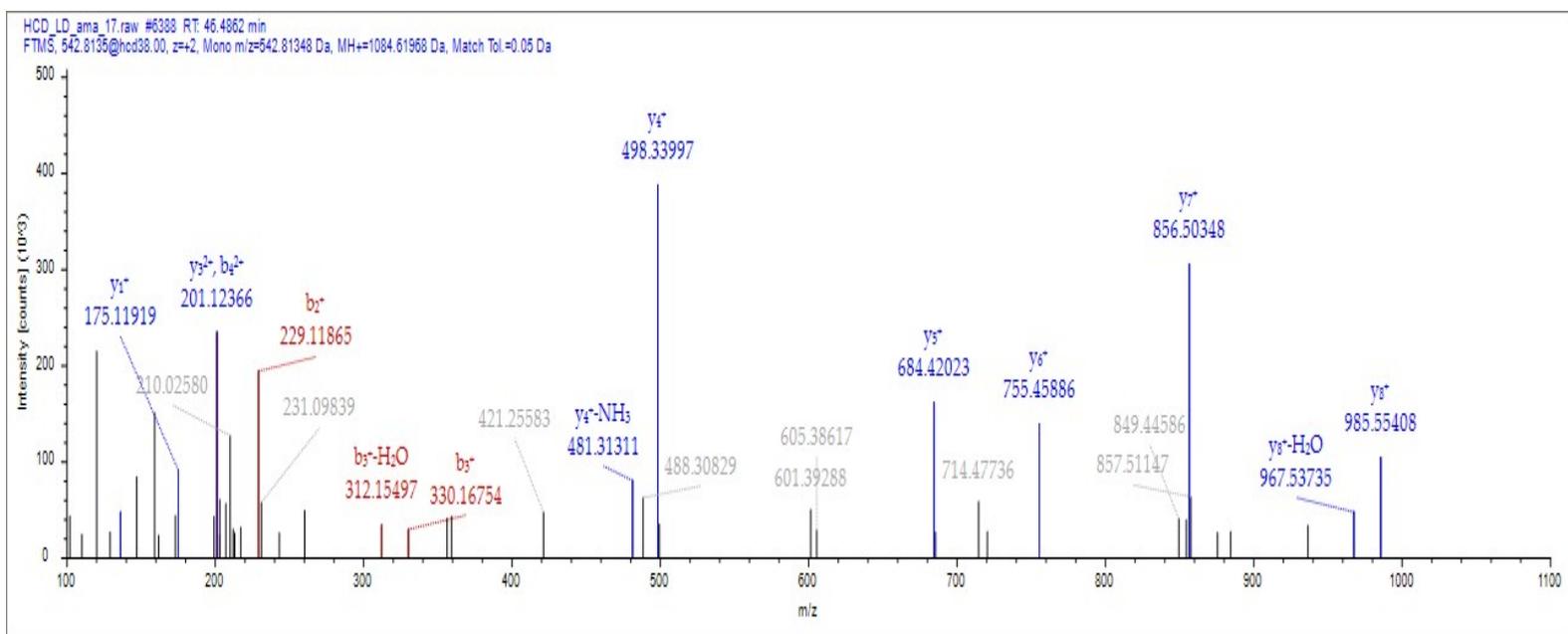
Saccharopine dehydrogenase



B

N-terminal_16	MATCLGVTMRAVISALLLCGLVAEVT FADPVRST EYAGRVA AVTCCER	VETAWPILRSWS	60
LdCL_280008600	-----	-----	-----
LTRL590_280008500	MTTCPGATLRAVLSALLLCGLVAEVT FADPVRST EYAGRVA AVTCCER	VETAWPILRSWS	60
N-terminal_16	RTCANERARGYATVKRFATMLAAYSRS SAPAL TLSQVCRGK YLSREAVQ	AF FEHAF CGAL	120
LdCL_280008600	-----MLAAYSRS SAPAL TLSQVCRGK YLSREAVQ	AF FEHAF CGAL	41
LTRL590_280008500	RTCANERARGDATVKRFATMLAHSR SSAPAL TLSQVCRGK YLSPEAVQ	AF FEHAF CGAL	120
	****:*****	*****	
N-terminal_16	PITH TDLVHSAYS PLMEDAPHDEDALASDVAVECQRLQQRW TMQAEQWEELLGGRHDLAD		180
LdCL_280008600	PITH TDLVHSAYS PLMEDAPHDEDALASDVAVECQRLQQRW TMQAEQWEELLGGRHDLAD		101
LTRL590_280008500	PITH TDLVHSAYS PLMEDAPHDEDAL TSDVAVACQRLQQRW TMQAEQWEELLGGRHDLAD		180
	*****:*****	*****	
N-terminal_16	AQYGLCPR SCTWVKDMLAGDAYDL		204
LdCL_280008600	AQYGLCPR SCTWVKDMLAGDAYDL		125
LTRL590_280008500	AQYGLCPR SCTS VKDMLAGDAYDL		204
	*****	*****	

C VETAWPILR



Supplementary Figure 17 Promastigote life stage

A N-terminal extension 17: IPP transferase/Zinc-finger of C2H2 type

Leishmania donovani CL_SL Chromosome 29 (Negative strand)

Current Annotation

Gene: LdCL_290014900

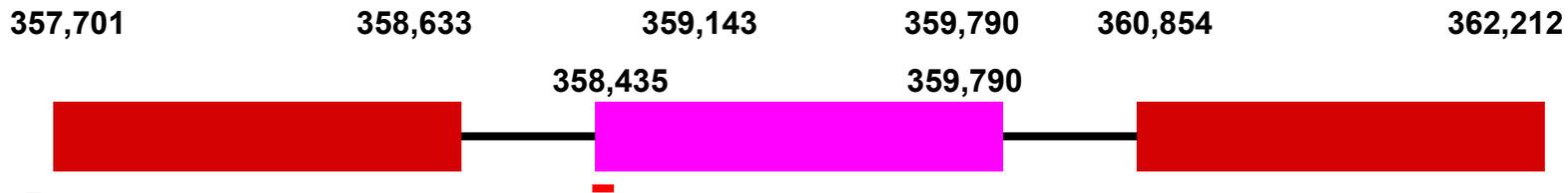
Current gene: LdCL_290015000

Gene: LdCL_290015100

Signal peptide peptidase

IPP transferase

DUF914



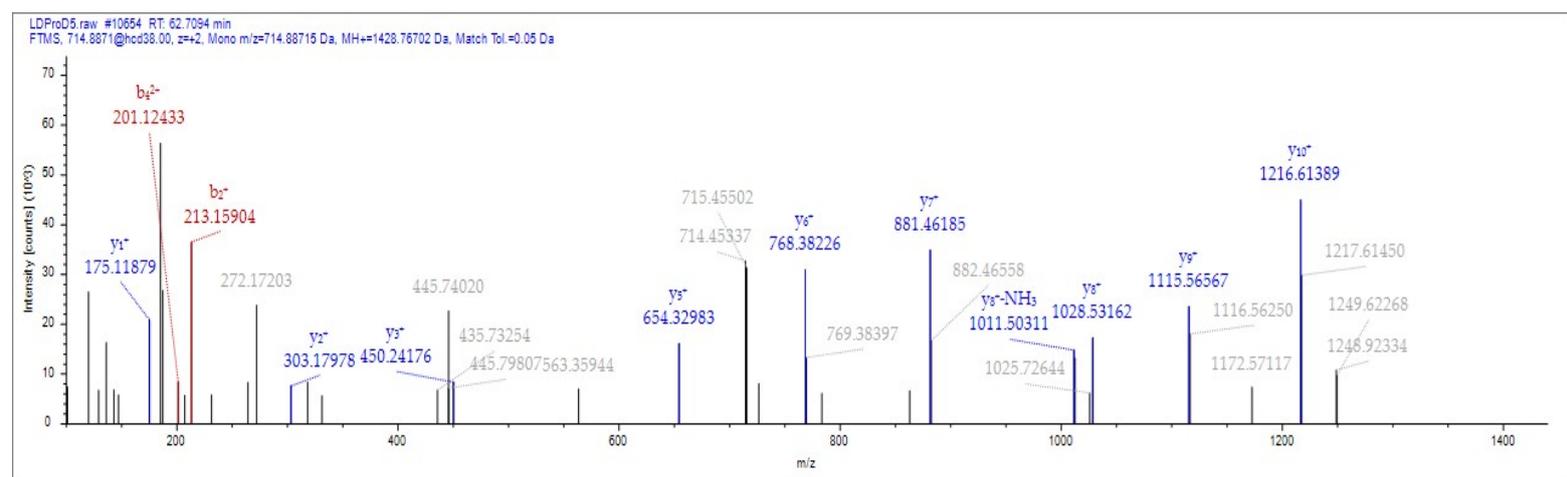
B

N-terminal_17	MRTVDKPVFFVIGSTGSGKSRVAIYLAQELRRVHNYKDVVIINCDVYQCYTDLPIILTNKP	60
LdCL_290015000	-----	
LAEL147_000524600	MRTVDKPVFFVIGSTGSGKSRVAICLAQELRRLHNYKDVVIINCDVYQCYTDLPIILTNKP	60
N-terminal_17	SATDLGGVTHLCLGLLSSDGSVICDNNGGSVEQREFCHEAQIQLTGNASFNVHSYERIVT	120
LdCL_290015000	-----	
LAEL147_000524600	SATDLGGVTHVCLGFLSSDGSVICDNNGGSVEQREFCHEAQIQLSGNASFNVHSYERIVT	120
N-terminal_17	SFINGFFQRHADGAVIICGGTCYYAQALLFADSLVYDREQHALCSYTSDAEDGLWERLS	180
LdCL_290015000	-----	
LAEL147_000524600	SFINGFFQRHADA AVIICGGTCYYAQALLFADSLVYDREQHALCSYPDLDAEDGLWERLN	180
N-terminal_17	AVDAEVALRYHPNDRRRIKRLLEIYDSTGQAPSAIFDSQASKLRFDSNALFIVWVRMERE	240
LdCL_290015000	-----	
LAEL147_000524600	AVDAEVALRYHPNDRRRIKRLLEIYDATRQAPSAIFDSQASKLRFDSNALFIVWVRMERE	240

N-terminal_17	VLDDFLNRRVDLMLQRGMLGEVKAFWLKNGRKLPHNSLSGAIGCKEFSQFFTSNDNPSLIS	300
LdCL_290015000	VLDDFLNRRVDLMLQRGMLGEVKAFWLKNGRKLPHNSLSGAIGCKEFSQFFTSNDNPSLIS	64
LAEL147_000524600	VLDDFLNRRVDLMLQRGMLGEVKAFWLKNGGKLP HNSLSEAIGCKEFSKFFTSNDNPSLIT	300
	*****	*****:*****:
N-terminal_17	SSDCENAVAQIKSNTRRYARQQERWIQNRLPLHSSSLKEAPTHFVQLWVQEGVDALPS	360
LdCL_290015000	SSDCENAVAQIKSNTRRYARQQERWIQNRLPLHSSSLKEAPTHFVQLWVQEGVDALPS	124
LAEL147_000524600	GSDCENAVAQIKSNTRRYARQQERWIQNRLPLHSSSLKEAPTHFVQLWAQEGVDALPS	360
	*****	*****

C

ITVSFINGFFQR



Supplementary Figure 18 Promastigote life stage

A N-terminal extension 18: Ciliary BBSome complex subunit 2

Leishmania donovani CL_SL Chromosome 30 (Negative strand)

Current Annotation

Gene: LdCL_300011100 Current gene: LdCL_300011200 Gene: LdCL_300011300



187,016 188,455 189,738 191,702 199,588 202,374

189,207 191,702

B

N-terminal_18	MATAKDASNHIRLDTAFELNIGAPILPDRVAAGRFLRSAAAREASASAQTLAVRPPPSAV	60
LdCL_300011200	-----	
LdBPK_300610.1	MATAKDASNHIRLDTAFELNIGAPILPDRVAAGRFLRSAAAREASASAQTLAVRPPPSAV	60
N-terminal_18	SLAFGSSGQRILLHNNNTSTAKAKRSAKRGEAQASVGVTFRLEDDSVIQTLNFGKAPTA	120
LdCL_300011200	-----	
LdBPK_300610.1	SLAFGSSGQRILLHNNNTSTAKAKRSAKRGEAQASVGVTFRLEDDSVIQTLNFGKAPTA	120
N-terminal_18	LAAGQLYDTWSTDIAATYDVLLFGAATSLLAYDAEQNKQVFYKDVEDGVQAVVCGTVMKP	180
LdCL_300011200	-----	
LdBPK_300610.1	LAAGQLYDTWSTDIAATYDVLLFGAATSLLAYDAEQNKQVFYKDVEDGVQAVVCGTVMKP	180

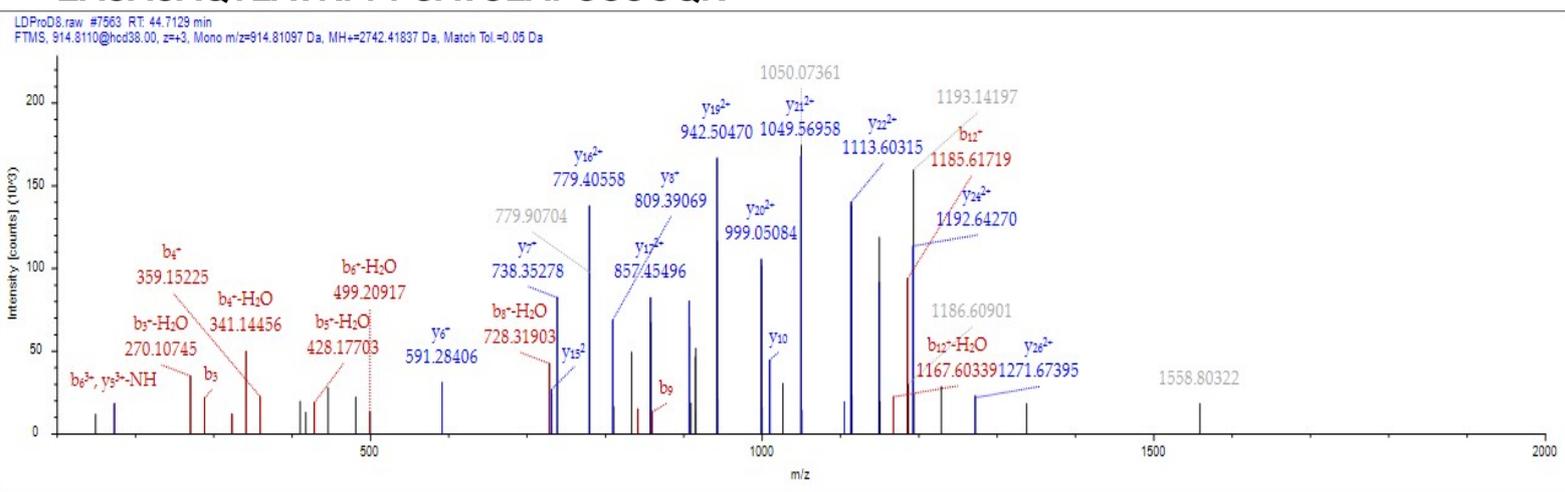
N-terminal_18	SSTSGEAPPLAVVGGNCIFGFDRFGAERYWTVTGDQVTAMALMPWTSVPDSGSAPLSLL	240
LdCL_300011200	SSTSGEAPPLAVVGGNCIFGFDRFGAERYWTVTGDQVTAMALMPWTSVPDSGSAPLSLL	63
LdBPK_300610.1	SSTSGEAPPLAVVGGNCIFGFDRFGAERYWTVTGDQVTAMALMPWTSVPDSGSAPLSLL	240

N-terminal_18	VASDDFEVRVYDGEAEIATVHEVDRVQKLVPLWQPSRI PDTEAAAADSAGRYAYLLENGT	300
LdCL_300011200	VASDDFEVRVYDGEAEIATVHEVDRVQKLVPLWQPSRI PDTEAAAADSAGRYAYLLENGT	123
LdBPK_300610.1	VASDDFEVRVYDGEAEIATVHEVDRVQKLVPLWQPSRI PDTEAAAADSAGRYAYLLANGT	300

N-terminal_18	VGMYERGERVWRVRGKSVPVSAAFCDVDGDGVAELVIGWSNGRVEVVRTDRGGGLEKGGSV	360
LdCL_300011200	VGMYERGERVWRVRGKSVPVSAAFCDVDGDGVAELVIGWSNGRVEVVRTDRGGGLEKGGSV	183
LdBPK_300610.1	VGMYERGERVWRVRGKSVPVSAAFCDVDGDGVAELVIGWSNGRVEVVRTDRGGGLEKGGSV	360

C

EASASAQTLAVRPPPSAVSLAFGSSGQR



Supplementary Figure 19 Promastigote life stage

A N-terminal extension 19: Mitochondrial RNA binding complex 1 subunit

Leishmania donovani CL_SL Chromosome 33 (Positive strand)

Current Annotation

Gene: LdCL_330033400

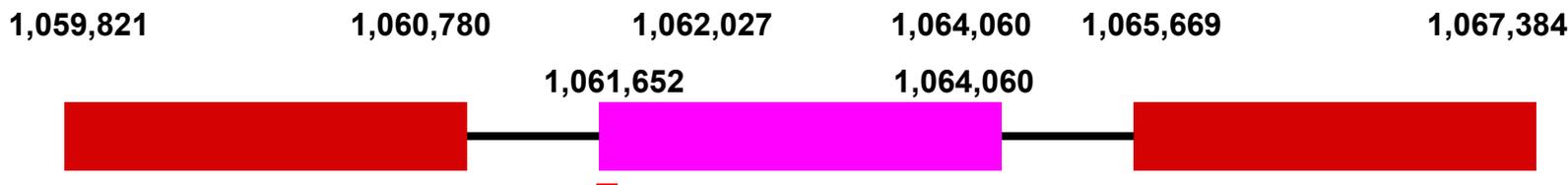
Current gene: LdCL_330033500

Gene: LdCL_330033600

Radial spokehead

MRB1

UAP1

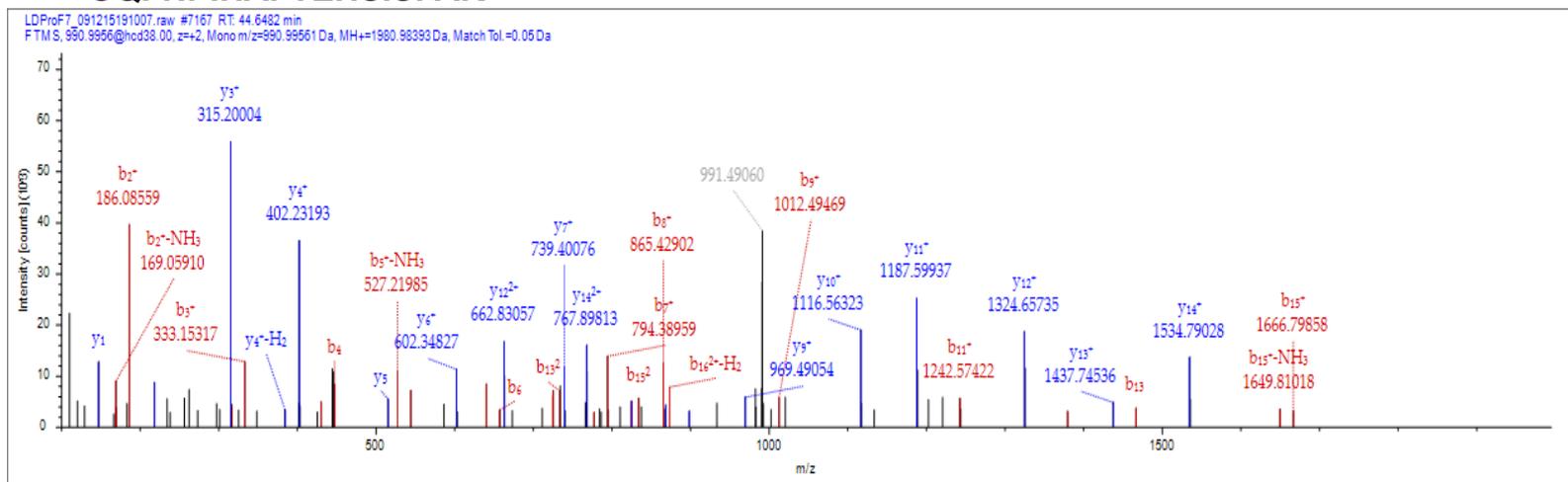


B

N-terminal_19	MLRRRCVRAAAADGVLGGDAAITYALGSASRTVTSRGQFNPIHAFTEHSISP	KRATNE	60
LdCL_330033500	-----		
LGELEM452_330034400	MLRRRCVRAAATDGVLGGGAAVIAYALAGASRTVTSRGQFNPLHAFTAHSISP	PARRATNE	60
N-terminal_19	KEFEVMITNPGPLRVAYS	PDYLDWLYRAYRSK	120
LdCL_330033500	-----	MITNPGPLRVAYS	55
LGELEM452_330034400	KEFELMITNPGPLRVAYS	PDYLDWLYRAYRSK	120
	*****	.****	:**
N-terminal_19	AAAAALPGAPPPGQTLRPRHSVRRQAGEARRAAAQAKLDALAKQQGMLDLFERQPQFP	AI	180
LdCL_330033500	AAAAALPGAPPPGQTLRPRHSVRRQAGEARRAAAQAKLDALAKQQGMLDLFERQPQFP	AI	115
LGELEM452_330034400	TAAAALPGAPPPGQTLRPRHSVRRQAGEARRAAAQAKLDTLAKQQGMLDLFERQPQFP	AI	180
	:*****	:*****	
N-terminal_19	HIDKAARCHVVELFKEMVLDRAWKPEEVWDKALLYRAILAE	RQASYPASYRYILD	240
LdCL_330033500	HIDKAARCHVVELFKEMVLDRAWKPEEVWDKALLYRAILAE	RQASYPASYRYILD	175
LGELEM452_330034400	HIDKAARCHVVELFKEMVLDRAWKPEEVWDKALLYRAILAE	RQASYPASYRYILD	240
	*:*****	*****	
N-terminal_19	NLAPRESGISDTGSNGSSVDARSSNESAGGIVGQSTLVI	PREDDYMYFVYLV	300
LdCL_330033500	NLAPRESGISDTGSNGSSVDARSSNESAGGIVGQSTLVI	PREDDYMYFVYLV	235
LGELEM452_330034400	NLAPRESGSSDTGSSSSSSVDARSSNESAGGIVSESTLVI	PREDDYMYFVYLV	300
	*****	.*****	:*****
N-terminal_19	VEGHVVLCHRQPNASELLFSHPPPKDEQEVLRSLYRPGT	TATATQGKDASVKAQD	360
LdCL_330033500	VEGHVVLCHRQPNASELLFSHPPPKDEQEVLRSLYRPGT	TATATQGKDASVKAQD	295
LGELEM452_330034400	VEGHVVLCHRQPNASELLFSHPPPKDEQEVLRSLYRPGT	TATATQGKDASAKAQD	360
	*****	.*****	

C

GQFNPIHAFTEHSISPAK



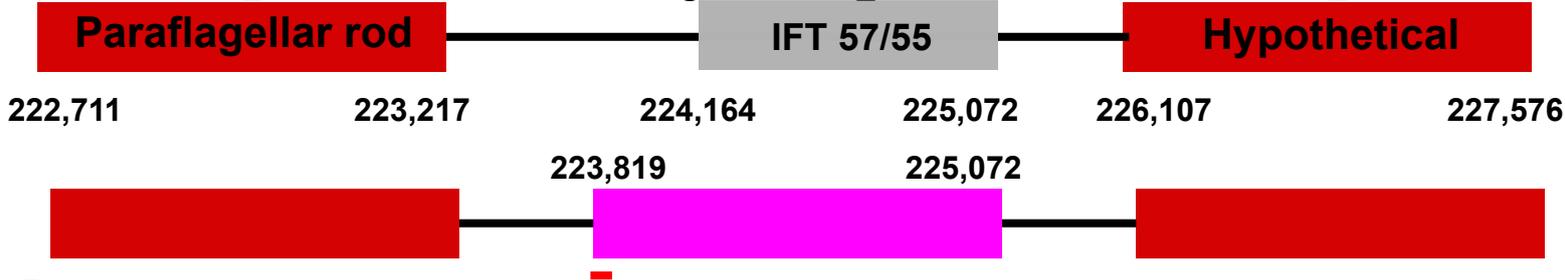
Supplementary Figure 20 Promastigote life stage

A N-terminal extension 20: intraflagellar transport protein 57/55

Leishmania donovani CL_SL Chromosome 33 (Positive strand)

Current Annotation

Gene: LdCL_330012100 Current gene: LdCL_330012200 Gene: LdCL_330012300



B

N-terminal_20	MSEEEATAPKKQPVEDATGPTNGLGVDDRTMSDIIDKLRMLDYETNFCRSFKPPFSPLNPY	60
LdCL_330012200	-----	
LAEL147_000671600	MSEETTAPKKQPVEDATGPTNGLGVDDRTMSDIIDKLRMLNYETSFCRSFKPPFSPLNPY	60
N-terminal_20	YFSGPSSIDNPNAQFYFYFTSLCVWLMKLCGHQFDAPGQFDDPNASSTTILAE LRSMNIAI	120
LdCL_330012200	-----MNIAI	5
LAEL147_000671600	YFSGPSSLDNPNAQFYFYFTSLCVWLMKLCGHQFDAPGQFDDPNASSTTILAE LRSMNIAI	120

N-terminal_20	ANIAPTRLKQGSGEAVLAVLSALVNAALSSTGYDFQPIDYGQVGRYDELA AVADA EDEQG	180
LdCL_330012200	ANIAPTRLKQGSGEAVLAVLSALVNAALSSTGYDFQPIDYGQVGRYDELA AVADA EDEQG	65
LAEL147_000671600	ANIAPTRLKQGSGEAVLAVLSALVNAALSSTGYGFQPIDYGQVERYDELA AVADA EDEQG	180

N-terminal_20	EDEIEDNVVIDSDDDDEVYVGVAVSGNRSKSDADRPPTPKVDAE EWKMEVERVAPLLQVR	240
LdCL_330012200	EDEIEDNVVIDSDDDDEVYVGVAVSGNRSKSDADRPPTPKVDAE EWKMEVERVAPLLQVR	125
LAEL147_000671600	EDEIEDNVVIDSDDDDEVYVRAVSGNRSKNDADRPPTPRVDVE EWKMEVERVAPLLQVR	240

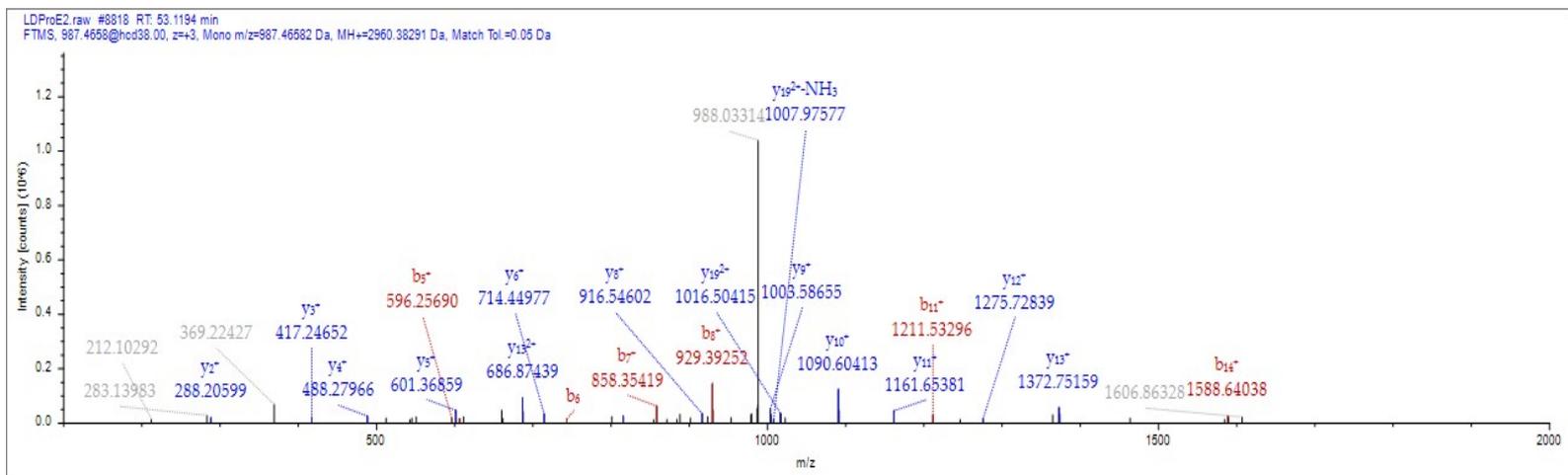
N-terminal_20	QSSLDDWRSRIESATVLLKAVENMYPDVKQMLERLAGDMDKSRDRIQKREQT LAQQFSDQ	300
LdCL_330012200	QSSLDDWRSRIESATVLLKAVENMYPDVKQMLERLAGDMDKSRDRIQKREQT LAQQFSDQ	185
LAEL147_000671600	QSSLDDWRSRIESATVLLKAVENMYPDVKQMLERLAGDMDKSRDRIQKREQT LAQQFSDQ	300

N-terminal_20	VEDYRVKLRRELNTSRDSANVAQQT VQQMTVELNQISELLDQTKRDIAERQAKISDTTPLI	360
LdCL_330012200	VEDYRVKLRRELNTSRDSANVAQQT VQQMTVELNQISELLDQTKRDIAERQAKISDTTPLI	245
LAEL147_000671600	VEDYRVKLRRELNTSRDSANVAQQT VQQMTVELNQISELLDQTKRDIAERQAKISDTTPLI	360

N-terminal_20	QVKEAVVKVQAEIKLMSLRIGILQNGVLQHVMKQTKARREGPTVEGTEMYSGEIMFS	417
LdCL_330012200	QVKEAVVKVQAEIKLMSLRIGILQNGVLQHVMKQTKARREGPTVEGTEMYSGEIMFS	302
LAEL147_000671600	QVKEAVVKVQAEIKLMSLRIGILQNGVLQHVMKQTKARREGPTAEGTEMYSGEIMFS	417

C

LCGHQFDAPGQFDDPNASSTTILAE LR



Supplementary Figure 21 Promastigote life stage

A N-terminal extension 21: Hypothetical protein

Leishmania donovani CL_SL Chromosome 33 (Positive strand)

Current Annotation

Gene: LdCL_330018800

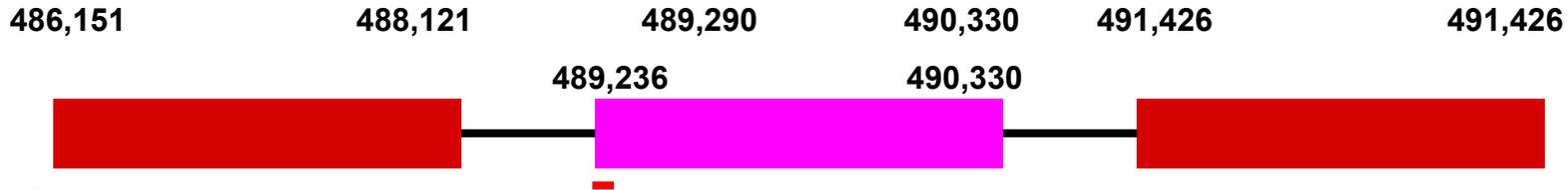
Current gene: LdCL_330018900

Gene: LdCL_330019000

AAA domain

Hypothetical

Hypothetical



B

N-terminal_21	MTDPTRRD PTEFLR VLRRMSNTTTSWQKAMIFASKGRMVG YRLTLEHYNTVLYSQSMWGRA	60
LdCL_330018900	-----MSNTTTSWQKAMIFASKGRMVG YRLTLEHYNTVLYSQSMWGRA	42
LGELEM452_330018800	MTDPTRRD PTEFLR VLRRMSNTTTSWQKAMIFASKGRMVG YRLTLEHYNTVLYSQSMWGRA	60

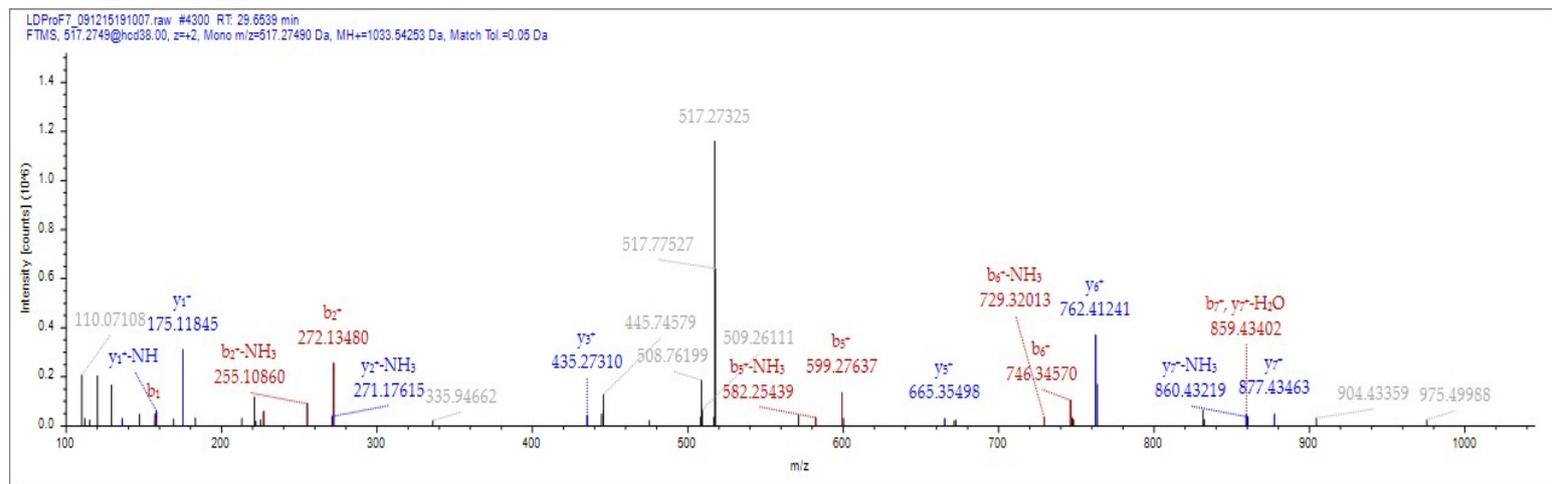
N-terminal_21	LEMIKVIRAMQQDGVQPNGATYYYYIVNGMANAEHGYNYDFNINHRLEKLQHW RVALNALQ	120
LdCL_330018900	LEMIKVIRAMQQDGVQPNGATYYYYIVNGMANAEHGYNYDFNINHRLEKLQHW RVALNALQ	102
LGELEM452_330018800	LEMIKVIRAMQQDGVQPNGATYYYYIVNGMANAEHGYNYDFNINHRLEKLQHW RVALNALQ	120

N-terminal_21	ACEANGFDSTDTMHNSVIVTMTIPGMNHWKEALQVLKKIIDEDRQLHPSMVRFLHDCLIR	180
LdCL_330018900	ACEANGFDSTDTMHNSVIVTMTIPGMNHWKEALQVLKKIIDEDRQLHPSMVRFLHDCLIR	162
LGELEM452_330018800	ACEANGFDSTDTMHNSVIVTMTIPGMNHWREALQVLKKIIDEDRQLHPNMVRFLHDCLIR	180
	*****:*****.*****	
N-terminal_21	NYRPREASDLLRRAAERG VKGYESAWETDVYK GKPTDAQLEASQAEAAVTAAAGTECVAG	240
LdCL_330018900	NYRPREASDLLRRAAERG VKGYESAWETDVYK GKPTDAQLEASQAEAAVTAAAGTECVAG	222
LGELEM452_330018800	NYRPREASDLLRCAAERG VKGYETAWETDVYK GKPTDAQLEASQAEAAVTDAARTECVAG	240
	***** *****:***** ** *****	
N-terminal_21	SSGALSSLTSDCKEATRNAQASAAATLMALQLRGDQALPPPQMR SALQEEMERNITAER	300
LdCL_330018900	SSGALSSLTSDCKEATRNAQASAAATLMALQLRGDQALPPPQMR SALQEEMERNITAER	282
LGELEM452_330018800	SSGALSSSTSDCKEAARNSAQASAAATLMALQLRGDQTLPPPQMR SALQEEMERSITAER	300
	***** *****:*****:*****.*****	
N-terminal_21	QALRPFTAGLHYTEMRSVFRPRVHRQLWYQWHQIANRYRPTASLKRRLAPRDSPTGIPA	360
LdCL_330018900	QALRPFTAGLHYTEMRSVFRPRVHRQLWYQWHQIANRYRPTASLKRRLAPRDSPTGIPA	342
LGELEM452_330018800	QALRPFTAGLHYTEMRSVFRPRVHRQLWYQWHQIANRYRPTASLKRRLAPRDSPTGIPA	360

N-terminal_21	WNRL	364
LdCL_330018900	WNRL	356
LGELEM452_330018800	WNRL	364

C

RDPTFLR



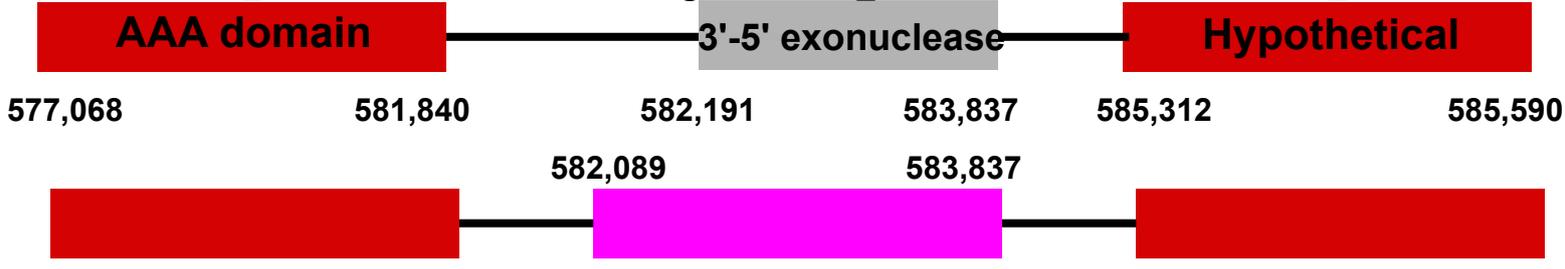
Supplementary Figure 22 Promastigote life stage

A N-terminal extension 22: 3'-5' exonuclease

Leishmania donovani CL_SL Chromosome 34 (Positive strand)

Current Annotation

Gene: LdCL_340019300 Current gene: LdCL_340019400 Gene: LdCL_340019500



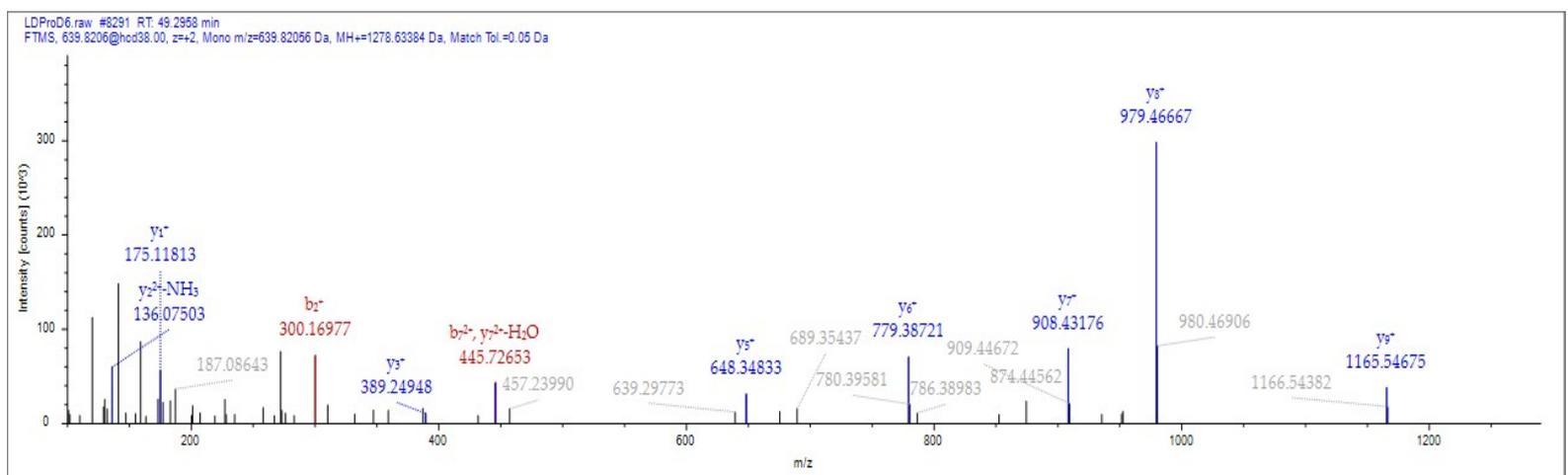
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N-terminal_22	MKTITSSVVAARLCGVFVDSSAAWLSYGERI IWAEMMQTLR QQPGLHKIMGMDSEWFRDLP	60
LdCL_340019400	-----MMQTLRQQPGLHKIMGMDSEWFRDLP	26
LGELEM452_340014400	MKTITSSVVAARLCGVFVDSSAAWLSYGERIWAEMMQTLRQQPVHLKIMGMDSEWFRNLP	60
	***** : **	
N-terminal_22	LAVVQFATSSHCFLVHISFFDGRILPAAVKEALCDPSIIKCGVGVSGDVSRLQKEQNITI	120
LdCL_340019400	LAVVQFATSSHCFLVHISFFDGRILPAAVKEALCDPSIIKCGVGVSGDVSRLQKEQNITI	86
LGELEM452_340014400	LAVVQFATSSHCFLVHISFFDGRILPAAVKEALCDPSIIKCGVGVSGDVSRLQKEQNITI	120

N-terminal_22	QSVLDVAQYSALFGLHQGAQSNLKVLAHSVANLSIEKDKMITRSNWELPLSDSRVNYAAE	180
LdCL_340019400	QSVLDVAQYSALFGLHQGAQSNLKVLAHSVANLSIEKDKMITRSNWELPLSDSRVNYAAE	146
LGELEM452_340014400	QSVLDVAQYSALLGLHQGAQSNLKVLAHSVANLSIEKDKMITRSNWELPLSDSRVNYAAE	180
	***** : *****	
N-terminal_22	DALASYLVGRAVMLKASEVTNMSAHTFDAAQWLQRTSSKAAMELKKLQREVLKSEAEGK	240
LdCL_340019400	DALASYLVGRAVMLKASEVTNMSAHTFDAAQWLQRTSSKAAMELKKLQREVLKSEAEGK	206
LGELEM452_340014400	DALASYLVGRAVMLKASEMTNMSADTFDAVQWLQRTSSKAAMELKKLQRETLKSEAEGK	240
	***** : ***** . ***** . ***** *	
N-terminal_22	KACPVSKSSGGDVLPAHFRSGTKVRVLDNRNGKFI FECSSGRAKFFVMEKNLAVITKHEKS	300
LdCL_340019400	KACPVSKSSGGDVLPAHFRSGTKVRVLDNRNGKFI FECSSGRAKFFVMEKNLAVITKHEKS	266
LGELEM452_340014400	KACPASKISGGDALLAQLRSGTKVRVLDNRNGNFI FECSSGRAKFFVMEKNLAVITKHVKG	300
	*** . ** * * * . * * : : ***** : ***** *	
N-terminal_22	DTRKALEIQLLFDPKVKTRLCIHHA LGVCELKNQCPFAHGVSELQAKAAALVDSQIPSCA	360
LdCL_340019400	DTRKALEIQLLFDPKVKTRLCIHHA LGVCELKNQCPFAHGVSELQAKAAALVDSQIPSCA	322
LGELEM452_340014400	DPRKALEIQLLFDPKVKTRLCMYHALGRCELQDQCPFAHGVSELQADAAALVDSQIPSCA	360
	* . ***** : : ***** * * : : ***** . *****	

C

IWAEMMQTLR



LDPProD6.raw #8291 RT: 49.2988 min
FTMS, 639.8206@hod38.00, z=+2, Mono m/z=639.8206 Da, MH+=1278.6384 Da, Match Tol=0.05 Da

Supplementary Figure 23 Promastigote life stage

A N-terminal extension 23: Peroxidase

Leishmania donovani CL_SL Chromosome 35 (Negative strand)

Current Annotation

Gene: LdCL_350040000

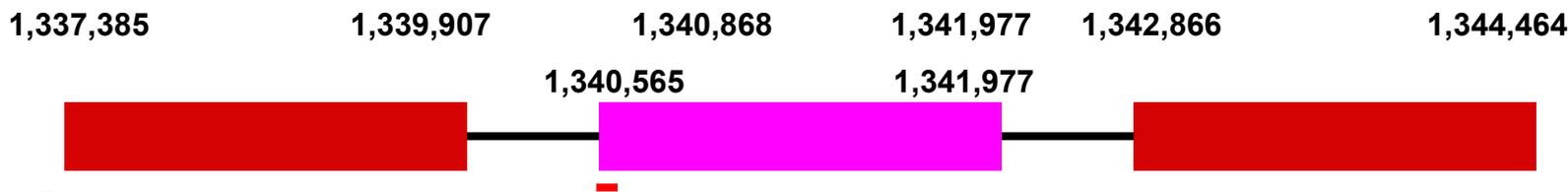
Current gene: LdCL_350040100

Gene: LdCL_350040200

DNA-repair

Peroxidase

Acyl transferase



B

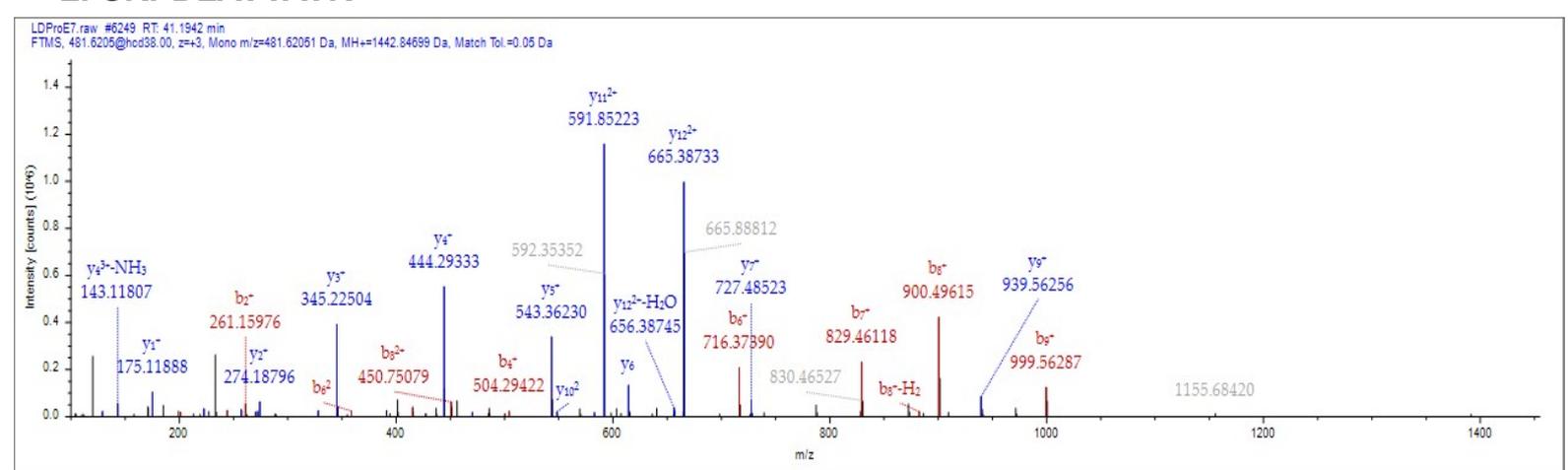
N-terminal_23	MYRASLLKRSTRGLFSSTSGRLLWWGCKESDLHRLARQRPWWETAAIFTGLLAFVNVNTSA	60
LdCL_350040100	-----	
LmjF.35.3460	MYRASLLKRSPRGLFSPTSGRLLWWGCKESDLHRLARQRPWWETAAIFTGLLVFVNVNTSA	60
N-terminal_23	FFYALNRWYQRWRPSGNELHIRDSIDQKLF SRPDLAVVAVR MLLHHALSNTQTPFGCPIV	120
LdCL_350040100	-----MLLHHALSNTQTPFGCPIV	19
LmjF.35.3460	FFYALNRWYQHWWRPSGNELHIRDSIDQKLFSRPDLAVVAVRMLLHHALSNTQTPFGCPIV	120

N-terminal_23	APENYREEAEEIADFIWKLSTDQPMYTFPDLWAMFTAKAMARLGGPNVPLRGRDDPPEF	180
LdCL_350040100	APENYREEAEEIADFIWKLSTDQPMYTFPDLWAMFTAKAMARLGGPNVPLRGRDDPPEF	79
LmjF.35.3460	APENYREEAEEIVDFIWKLNADQPMYTFPDLWAMLAKAMARLGGPNVVPFRGRDDPPEF	180
	***** . ***** . : ***** : ***** : *****	
N-terminal_23	MTRDLLLAFPRSLVHEDDRDVLNMKRVLSRQGFSLQVVALIGCNRCIGFHDAANFHTRE	240
LdCL_350040100	MTRDLLLAFPRSLVHEDDRDVLNMKRVLSRQGFSLQVVALIGCNRCIGFHDAANFHTRE	139
LmjF.35.3460	MTRDLLLAFPRSLVHEDDRDVLNMKRVLSRQGFSLQVVALIGCNRCIGFHDAANFHTRE	240

N-terminal_23	EVKPKMKRRPGAIGPSDDEFHLPGTIQKTTMDPYVFGSEYFNLLLDYKWRQPGLFQQRK	300
LdCL_350040100	EVKPKMKRRPGAIGPSDDEFHLPGTIQKTTMDPYVFGSEYFNLLLDYKWRQPGLFQQRK	199
LmjF.35.3460	EVKPKMKRRPGVIGPSDDEFHLPGTIQKTTMDPYVFGSEYFDLLLDYKWRQPGLFQQRK	300
	***** . ***** : ***** **	
N-terminal_23	GAYSCNAKERARQVTLTLLDPFSEKSYESQRRMGPAEKARESSNATDKRIPATLGDGDSAP	360
LdCL_350040100	GAYSCNAKERARQVTLTLLDPFSEKSYESQRRMGPAEKARESSNATDKRIPATLGDGDSAP	259
LmjF.35.3460	GAYRCNAKERARQVTLTLLDPFSEKSYESQRRMRAAEKARESSDAAGKRIPSTLGGNDSAP	360
	*** ***** . ***** : . ***** : *** . *****	

C

LFSRPDLAVVAVR



Supplementary Figure 24 Promastigote life stage

A N-terminal extension 24: Zinc finger protein

Leishmania donovani CL_SL Chromosome 35 (Negative strand)

Current Annotation

Gene: LdCL_350040400

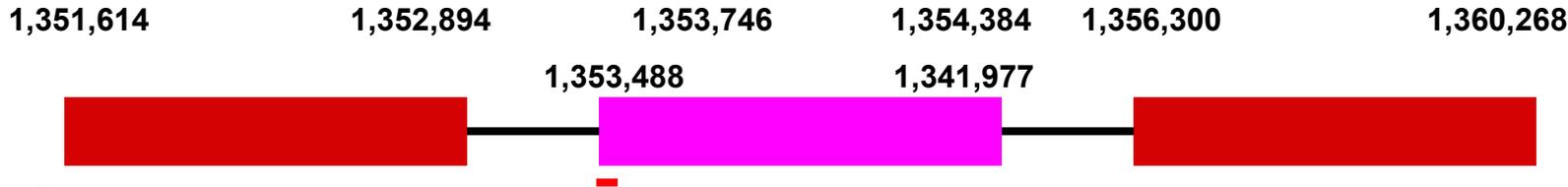
Current gene: LdCL_350040500

Gene: LdCL_350040600

Hypothetical

Zinc finger

SMC family protein



B

```

N-terminal_24      MGEKQSKGYWQEDEDAPACNGCGCVFSTTVRRHHCRCNGYVLCGDCSRHRAAI PMRGITE 60
LdCL_350040500   -----
LdCL_350040500   MGEKQSKGYWQEDEDAPACNGCGCVFSTTVRRHHCRCNGYVLCGDCSRHRAAI PMRGITE 60
LdCL_350040400   -----

N-terminal_24      PERVCDACYLALRNSNMTGSSLSKGGMVPIVNPSEANRPAAWAAGGTAGGPSADPRMSD 120
LdCL_350040500   -----MVPIVNPSEANRPAAWAAGGTAGGPSADPRMSD 34
LdCL_350040400   PERVCDACYLALRNSNMAGSSLSKGGVVSIVNPSEANRPAAWAAGGTAGGPSADPRVSD 120
LdCL_350040400   : * . ***** : **

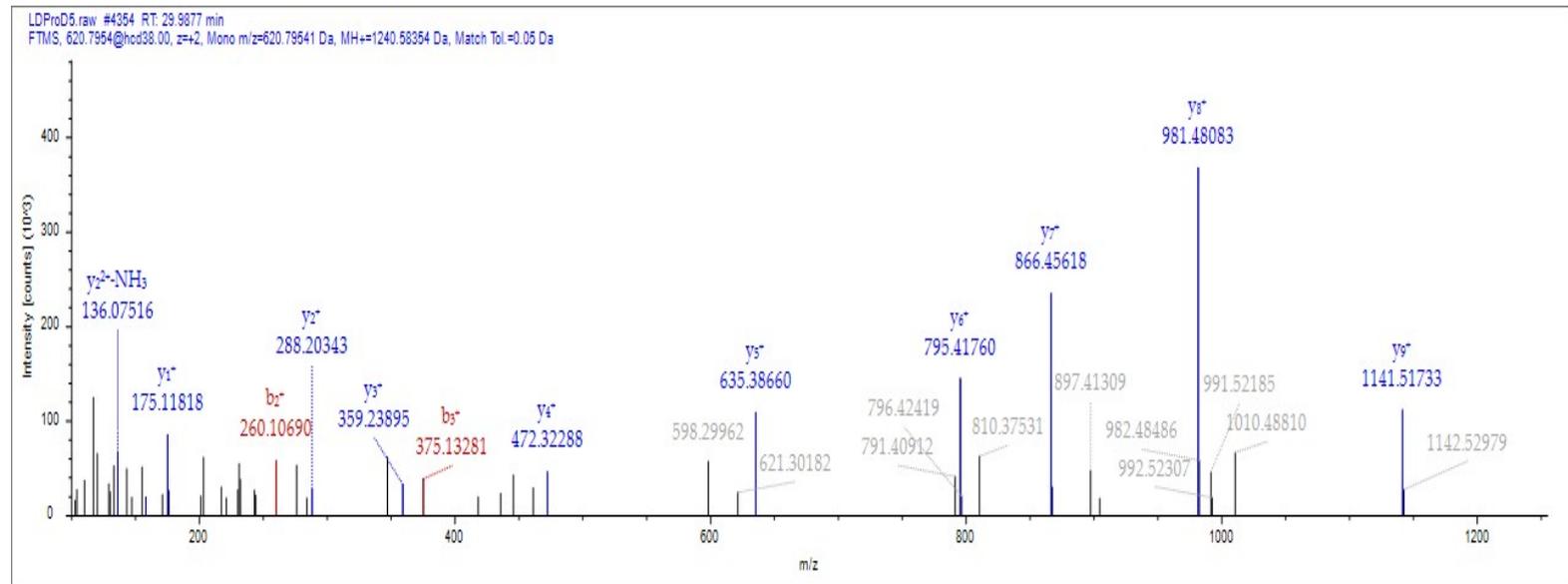
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LdCL_350040500   AAGVAAEAQPSSTAPELTEEQRKAEYYHNLGGGAGDHGDNDAAGTAGTHQGTISPEAL 94
LdCL_350040400   AAGVAAEAQPSSTAPELTEEQRKAEYYHNLGGGAGDHGDNDAAGTAGTHQGTISPEAL 180
LdCL_350040400   *****

N-terminal_24      EKELLIQRWNTVRQATVYVDILVQQSERVEPDTAVEYSRETEALTLEPELPINQLGTRML 240
LdCL_350040500   EKELLIQRWNTVRQATVYVDILVQQSERVEPDTAVEYSRETEALTLEPELPINQLGTRML 154
LdCL_350040400   EKELLIQRWNTVRQATVYVDILVQQSERVEPDTAVEYSRETEALTLEPELPINQLGTRML 240
LdCL_350040400   *****

N-terminal_24      PLPPPTTDSARYLVEPVTTIIGMPSTTLEKVAADLKQRLATRMPHALTREPADNFVGY 298
LdCL_350040500   PLPPPTTDSARYLVEPVTTIIGMPSTTLEKVAADLKQRLATRMPHALTREPADNFVGY 214
LdCL_350040400   PLPPPTTDSARYLVEPVTTIIGMPSTTLEKVAADLKQRLATRMPHALTREPADNFVGY 298
LdCL_350040400   *****
    
```

C

VCDACYLALR

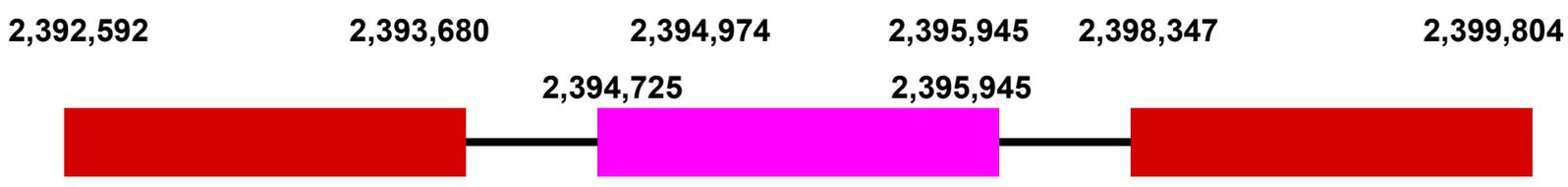
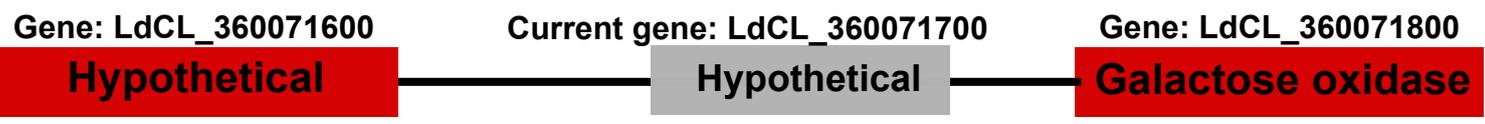


Supplementary Figure 25 Promastigote life stage

A N-terminal extension 25: Hypothetical protein

Leishmania donovani CL_SL Chromosome 36 (Negative strand)

Current Annotation

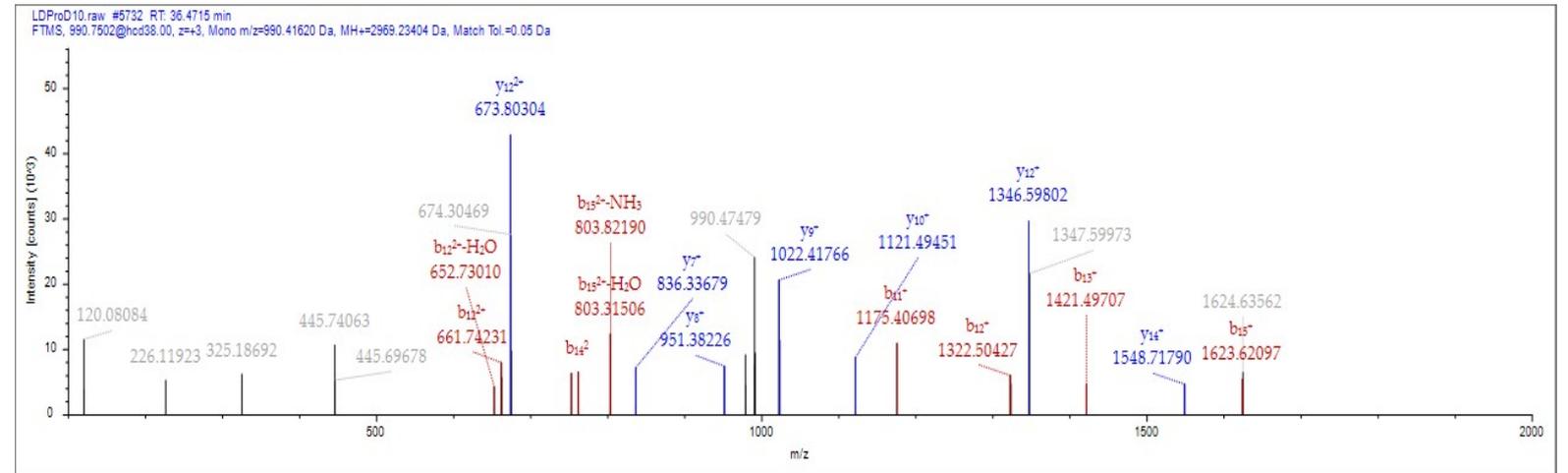


B

N-terminal_25	MSEGPRKRVAGAQLSR DDDGEGRADDEFVTTTPQVADESEMANR RVVVRVRRPDGATSSANA	60
LdCL_360071700	-----	
LGELEM452_360072700	MSEGPRKRVAGGQLSRDDDGEGRADDEFVTTTPQVADESEMANRRVVRVRRPDGATSSANA	60
N-terminal_25	FARGPSLFEKDVSLGSDKEPPVFKMPFGAGDASKGTAAAFSFAAPASSSSKSSSSFGGLPPT	120
LdCL_360071700	-----MPFGAGDASKGTAAAFSFAAPASSSSKSSSSFGGLPPT	37
LGELEM452_360072700	FARGPSLFEKDVSLGSDKEPPVFKMPFGAGDASKGTAAAFSFAAPASSSSQSSSSFGGLPPT	120
	*****:*****	
N-terminal_25	TKPSGFSFGGSTASPATTGTSTTPKTPFSFGGLPTDGSSATTGTTSSFSFGTNSAPSVTA	180
LdCL_360071700	TKPSGFSFGGSTASPATTGTSTTPKTPFSFGGLPTDGSSATTGTTSSFSFGTNSAPSVTA	97
LGELEM452_360072700	TKPSGFSFGGSTASPATTGSSTTPKVPFSFGGLHADGSSAQTGATSSFSFGTNSAPSVAA	180
	*****:*****.*****:***** **:*****:*****:*****:*	
N-terminal_25	STPAGGFSFGFAPAKSSATAPTDEAPAKEPAPATATALPKAPVFGAGSFNFGSAVNSFVE	240
LdCL_360071700	STPAGGFSFGFAPAKSSATAPTDEAPAKEPAPATATALPKAPVFGAGSFNFGSAVNSFVE	157
LGELEM452_360072700	STPVGGFSFGLAPAKSPATAPTDEAPAKEPAPVTATAQPKAPVFGAGSFNFGSAVNSFVE	240
	.**:*****.*****.*****.***** *****	
N-terminal_25	ARKKMQEEKGPESEADGEDKGGDAPKDDADGTGFGSEVVEQSARDVLATAPSKLYLFE	300
LdCL_360071700	ARKKMQEEKGPESEADGEDKGGDAPKDDADGTGFGSEVVEQSARDVLATAPSKLYLFE	217
LGELEM452_360072700	ARKKMQEEKGQESSETDGEDKGGDAPKDDADGTGFGSEVVEQSARDVLATAPSKLYLFE	300
	***** ***:*****	
N-terminal_25	KGEGDTPGRWAERGAGEAKLIAEKK-AEAGVHVHRLLRGGYALNATVGKNLFTLSKTEA	360
LdCL_360071700	KGEGDTPGRWAERGAGEAKLIAEKK-AEAGVHVHRLLRGGYALNATVGKNLFTLSKTEA	277
LGELEM452_360072700	KGEGDTPARWAERGAGEAKLIAEKKAEAGVHVHRLLRGGYALNATVCKNLFTLSKTEA	360
	*****.*****:*****:***** *****	
N-terminal_25	KHLILAVATSEGPHTYLLKFTGPNAEVN'TTKFSEAIKKIMQDAEKAA	407
LdCL_360071700	KHLILAVATSEGPHTYLLKFTGPNAEVN'TTKFSEAIKKIMQDAEKAA	324
LGELEM452_360072700	KHLILAVATSEAPHTYLLKFTGPNAEVN'TTKFSEAIKKIMQEAEKAA	407
	*****.*****:*****:***** *****	

C

DDDGEGRADDEFVTTTPQVADESEMANR



Supplementary Figure 26 Promastigote life stage

A N-terminal extension 26: 40S ribosomal protein S11

Leishmania donovani CL_SL Chromosome 20 (Negative strand)

Current Annotation

Gene: LdCL_200020900

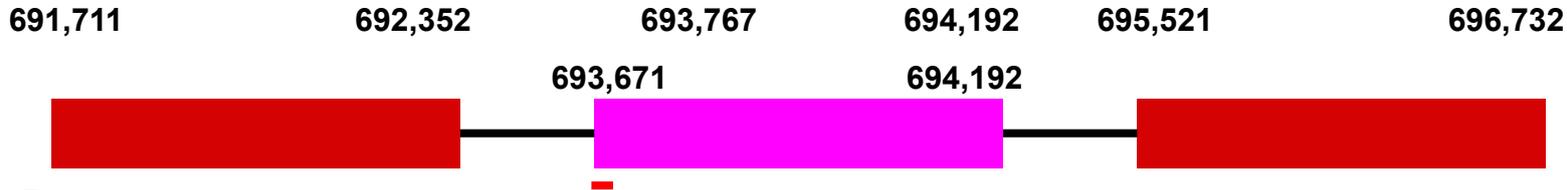
Current gene: LdCL_200021000

Gene: LdCL_200021100

Suppressor of G2 allele of SKP1

40S ribosomal protein S11

Hypothetical



B

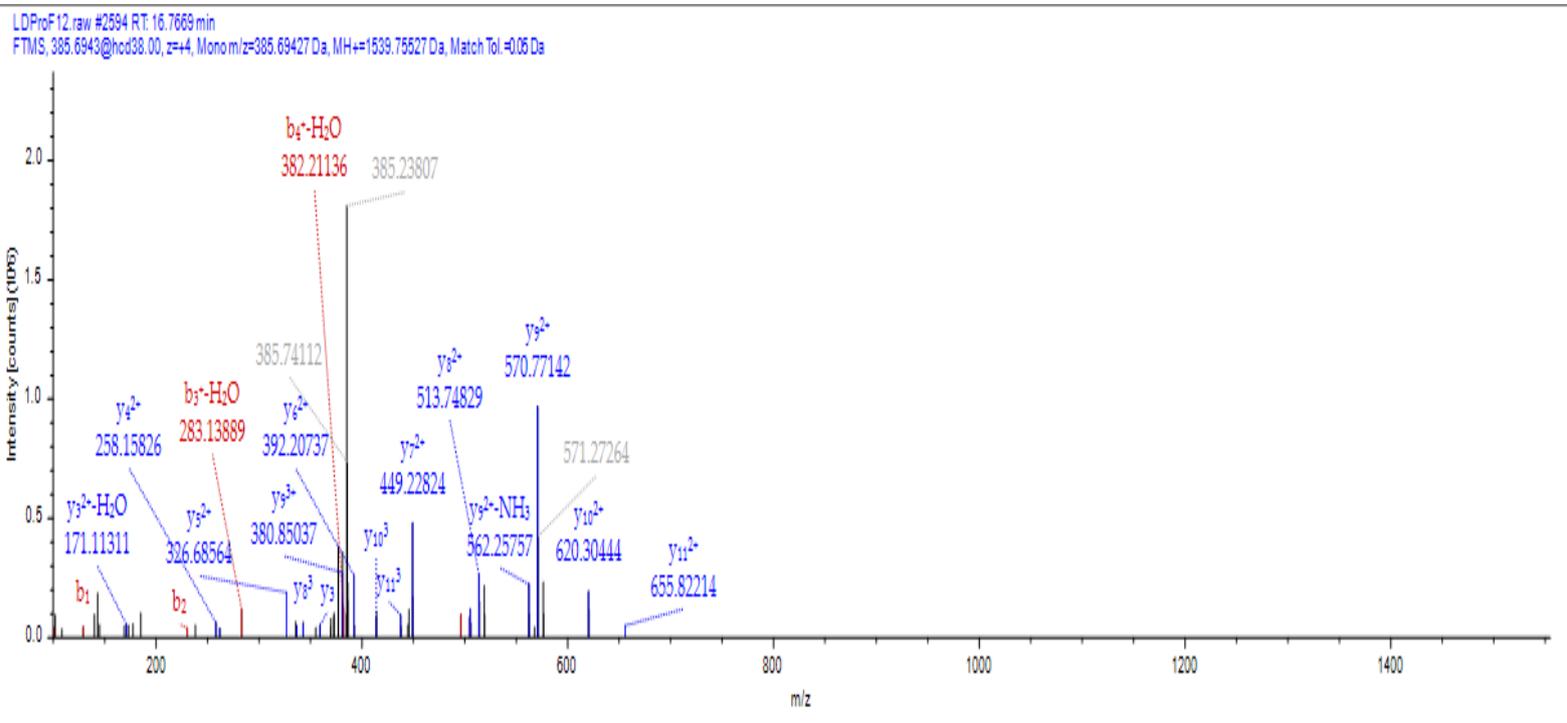
N-terminal_26	MPVAPQYYHAHAVDATIQHEKAYQRQTAVNENMHRPSRKHVNKS	GHIRYSKKIGLGFKTP	60
LMJSD75_210023800	MPVAPQYYHAHAVDATIQHEKAYQRQTAVNENMHRPSRKHVNKS	GHIRYSKKIGLGFKTP	60
LdCL_200021000	-----MHRPSRKHVNKS	GHIRYSKKIGLGFKTP	28

N-terminal_26	AKALNGKYIDRKCPFTSNVVIRGRILRGVVHSTKMHRTIIIRRN	YLFHFIKKYQRYQKRHK	120
LMJSD75_210023800	AKALNGKYIDRKCPFTSNVVIRGRILRGVVHSTKMHRTIIIRRN	YLFHFIKKYQRYQKRHK	120
LdCL_200021000	AKALNGKYIDRKCPFTSNVVIRGRILRGVVHSTKMHRTIIIRRN	YLFHFIKKYQRYQKRHK	88

N-terminal_26	SLAVHCSPAFDPKQGDEVVIGQCRPLSKTIRYNVLEVVS	KSSADKMGKFAKN	173
LMJSD75_210023800	SLAVHCSPAFDPKQGDEVVIGQCRPLSKTIRYNVLEVVS	KSSADKMGKFAKN	173
LdCL_200021000	SLAVHCSPAFDPKQGDEVVIGQCRPLSKTIRYNVLEVVS	KSSADKMGKFAKN	141

C

QTAVNENMHRPSR



Supplementary Figure 27 Promastigote life stage

A N-terminal extension 27: Hypothetical protein

Leishmania donovani CL_SL Chromosome 23 (Positive strand)

Current Annotation

Gene: LdCL_230021100

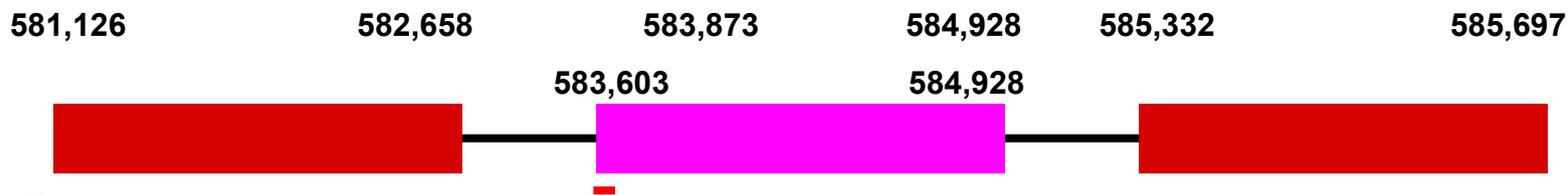
Current gene: LdCL_230021200

Gene: LdCL_230021300

Coronin

Hypothetical

UPF0546



B N-terminal_27

N-terminal_27 LdCL_230021200	MKQLLSPKTARHARLFRLANRLAGQKGAPESDGERLSWVNSHVKRTQDMELSREEEALRE	60
LmjF.23.1190	-----	
	MKQLLSPKTARHSRLFRLANRLAGQKGAPESDGERLSWVNSHVKRTQDMELSREEEALRE	60
N-terminal_27 LdCL_230021200	RIMPLEVGDNAVVSNSQATHGNLFHFREYPMYPGEYVPAGHNTLSSLRDELRSDLTAQSL	120
LmjF.23.1190	-----MYPGEYVPAGHNTLSSLRDELRSDLTAQSL	30
	RIMPLEVGDNAVVSNSQATHGNLFHFREYPMYPGEYVPAGHNTLSSLRDELRSDLTAQSL	120

N-terminal_27 LdCL_230021200	KEAWMRVSGGMYFKSIDDYYASVDGLDQEQLGEIVSALLPDLRKYEQAQALVTKVLESLSK	180
LmjF.23.1190	KEAWMRVSGGMYFKSIDDYYASVDGLDQEQLGEIVSALLPDLRKYEQAQALVTKVLESLSK	90
	KEAWMRVSGGMYFKSIDDYYASVDGLDQEQLGEIVSALLPDLRKYEQAQALVTKVLESLSK	180

N-terminal_27 LdCL_230021200	PADSPSRQLSRTITADAVGLDNAPGHYTNFLEWMGRMTETKAFKTEHALFEFSRRKFNRE	240
LmjF.23.1190	PADSPSRQLSRTITADAVGLDNAPGHYTNFLEWMGRMTETKAFKTEHALFEFSRRKFNRE	150
	PADSPSRQLSRTITADAVGLDNAPGHYTNFLEWMGRMTETKAFKTEHALFEFSRRKFNRE	240

N-terminal_27 LdCL_230021200	DVRVMFENYNLMSKATLEADSSDSYSHFYAVLHDFS SRKVAGEDTRHQIGVRIDPAEVDPE	300
LmjF.23.1190	DVRVMFENYNLMSKATLEADSSDSYSHFYAVLHDFS SRKVAGEDTRHQIGVRIDPAEVDPE	210
	DVRVMFENYNLMSKATLEADSTDSYSHFYTVLHDFS SRKVAGEDTRHQIGVRIDPAEVDPE	300
	***** : ***** : *****	
N-terminal_27 LdCL_230021200	TGIAVGHGRADGQKYMFTALIRENRDHNGSVTLLGKPLSVAFFDDKSWLMEMVLMFPDEAK	360
LmjF.23.1190	TGIAVGHGRADGQKYMFTALIRENRDHNGSVTLLGKPLSVAFFDDKSWLMEMVLMFPDEAK	270
	TGIAVGHGRADGQKYMFTALIRENRDHNGSVTLLGKPLSVAFFDDKSWLMEMVLMFPDEAK	360

C EYPMYPGEYVPAGHNTLSSLR

