

# Supplementary Figure 1

# Promastigote life stage

## A Novel gene 1: Cytochrome oxidase c subunit VIb

*Leishmania donovani* CL\_SL Chromosome 32 (Positive strand)

### Current Annotation

Gene: LdCL\_320037500

Gene: LdCL\_320037600

Hypothetical

Rab5-interacting protein (Rab5ip)

1,193,880 1,196,159 1,197,396 1,197,695 1,198,067 1,198,390

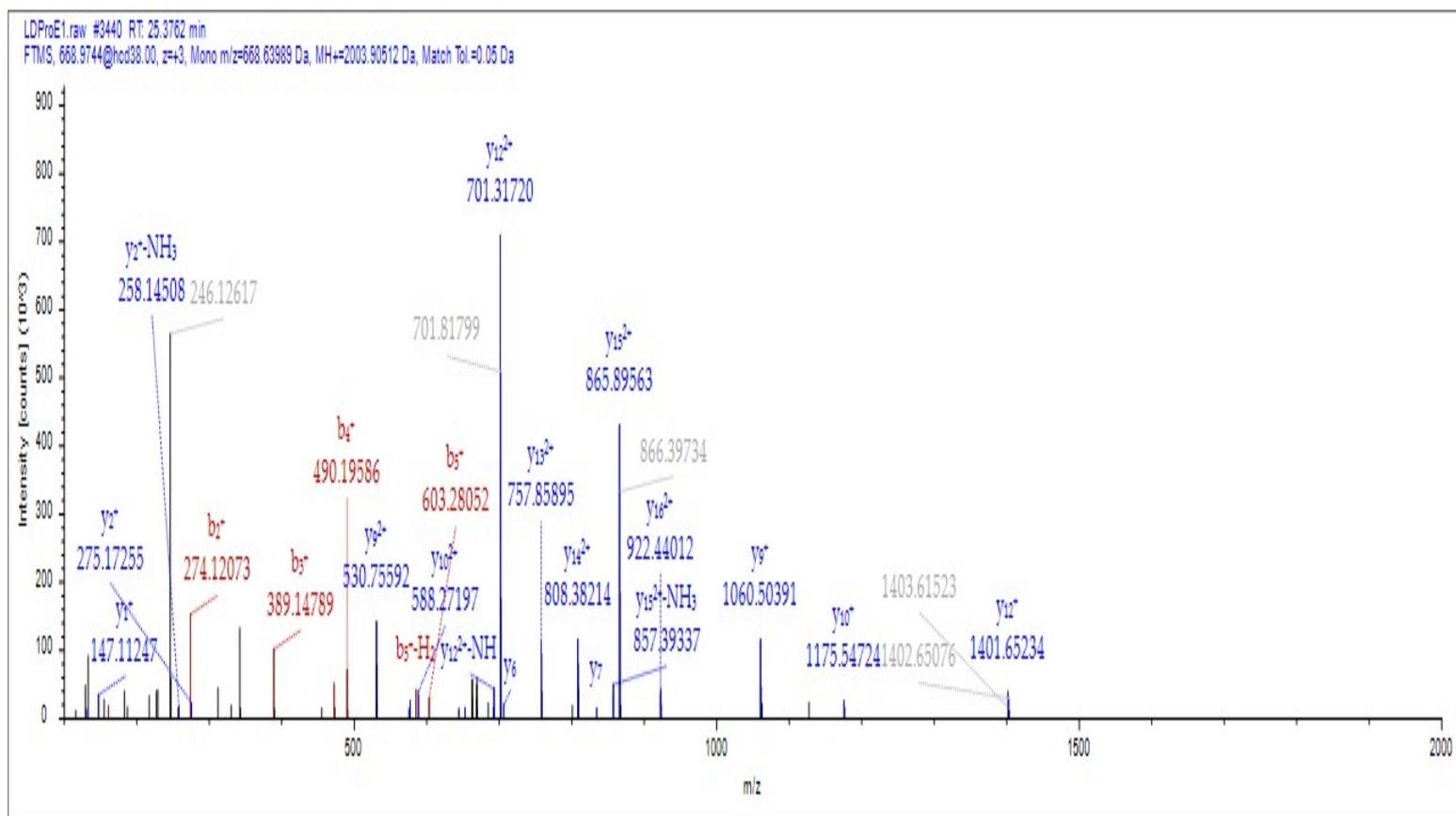
Novel gene ORF

## B

Novel_1	MQSAKKREL <del>CYKTRDAFHKCLDTLPEDPEKECAAQK</del> LFEQSCP <del>KS</del> WVSYFEKQREREVI	60
LTRL590_320038000	MQSAKKREL <del>CYETRDAFHKCLDTLPEDPEKECAAQK</del> LFEQSCP <del>KS</del> WVSYFEKQREREVI	60
	*****:*****	

Novel_1	LQLQVEQYKGR	11
LTRL590_320038000	LQLQVEQYKGR	11
	*****	

## C CLDTLPEDPEKECAAQK



## A Novel gene 2: Hypothetical protein

*Leishmania donovani* CL\_SL Chromosome 04 (Negative strand)

### Current Annotation

Gene: LdCL\_040017800

Gene: \_LdCL\_040017900

Leucine Rich repeat

casein kinase I



## B

Novel\_2 MFRRCARRLGHQLIK**EPMGHEETTF**SRGDRTRNNALQHIYGLIGFCGVCVLALFSFVSG 60  
 LGELEM452\_040017600 MFRRCARRLGHQLIKEPMGHEETTF SRGDRTRNNALQHIYGLIGFCGVCVLALFSFVSG 60

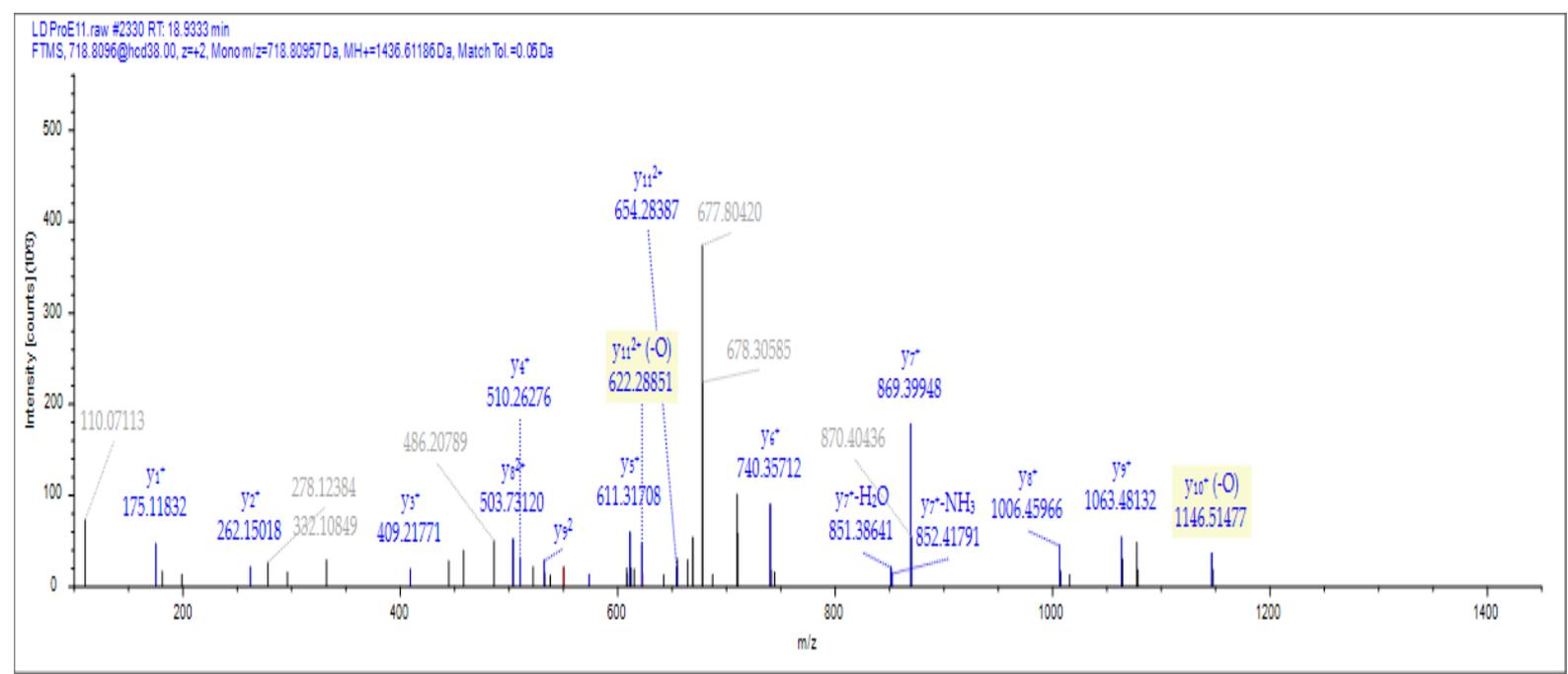
\*\*\*\*\*

Novel\_2 QRRVLTITADGTITKGTCPTKWWNF 26  
 LGELEM452\_040017600 QRRVLTITADGTITKGTCPTKWWNF 26

\*\*\*: \*\*\*\*\*

## C

### EPMGHEETTFSR



## A Novel gene 3: Hypothetical protein

*Leishmania donovani* CL\_SL Chromosome 27 (Positive strand)

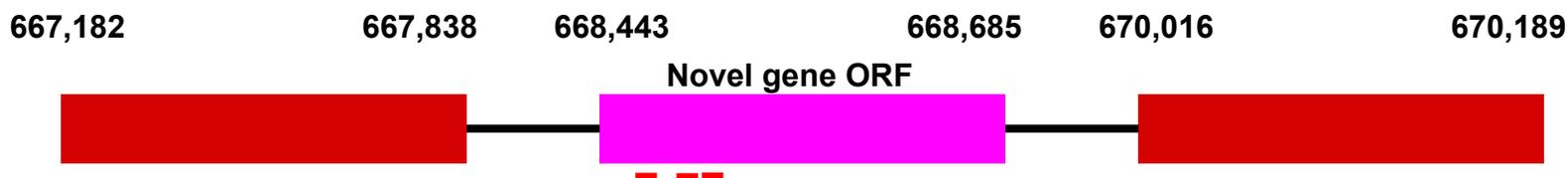
Current Annotation

Gene: LdCL\_270022000

Gene: LdCL\_270022100

Hypothetical

Hypothetical

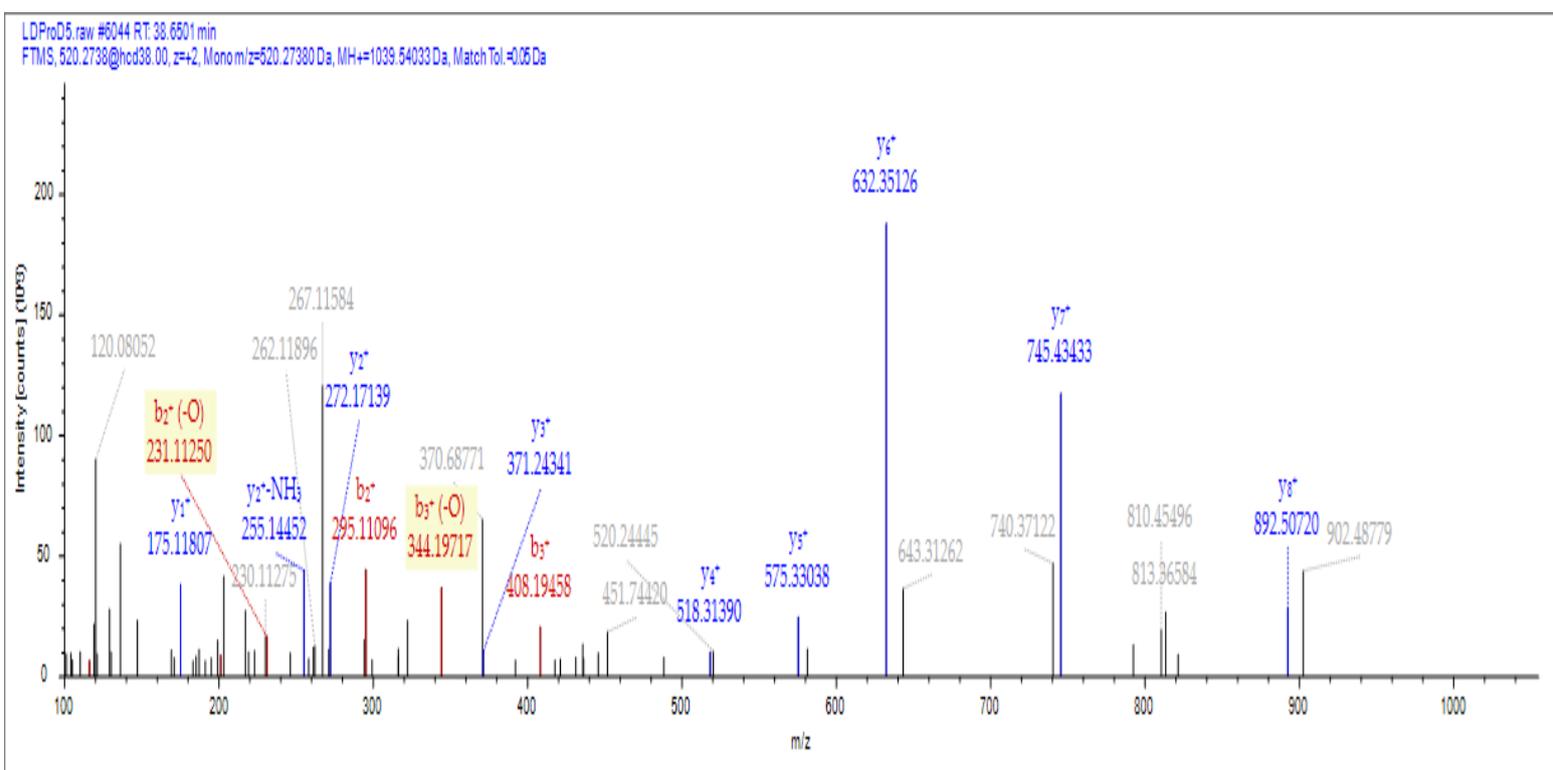


## B

Novel_3	<b>MFLGGFVPR</b> RFAQFNRPWWMFFIFAIGAWAGEYPAMQIKYNARDLVLDPHRYVWSHLDD 60
LGELEM452_270022800	MFLGGFVPRRFAQFNRPWWMFFIFAIGAWAGEYPAMQIKYNARDLVLDPHRYVWSHLDD 60
	*****
Novel_3	HH 62
LGELEM452_270022800	HH 62

## C

**MFLGGFVPR**



## A Novel gene 4: Hypothetical protein

*Leishmania donovani* CL\_SL Chromosome 32 (Positive strand)

Current Annotation

Gene: LdCL\_320037500

Gene: LdCL\_320037500

Hypothetical

Hypothetical

1,186,037      1,186,633      1,192,549      1,193,376      1,193,880      1,196,159

Novel gene ORF

## B

Novel\_4      MTRPLYAFCYCEENVYKFLETISAMSDLFDRSCAVFMTSFCCAPCDEALNEWTSVVPYR 60  
 LSCM4\_02987      MTRPLEYAFYCEENVYKFLETISTMNDIFDRSCAVFMTSFCCRPCDEVLNEWTSVVPYR 60  
 \*\*\*\*\*

Novel\_4      PYESSEFRKDITTWDYHVIALVRATRTGKQYVVDQDSRLPPTEDTELGLAPHCIDLDKY 120  
 LSCM4\_02987      PYESSELEKDLIVWDYHVIALVRATHAGKQYVVDQDSKLPPTEDAELGLAPHCIDLHTY 120  
 \*\*\*\*\*

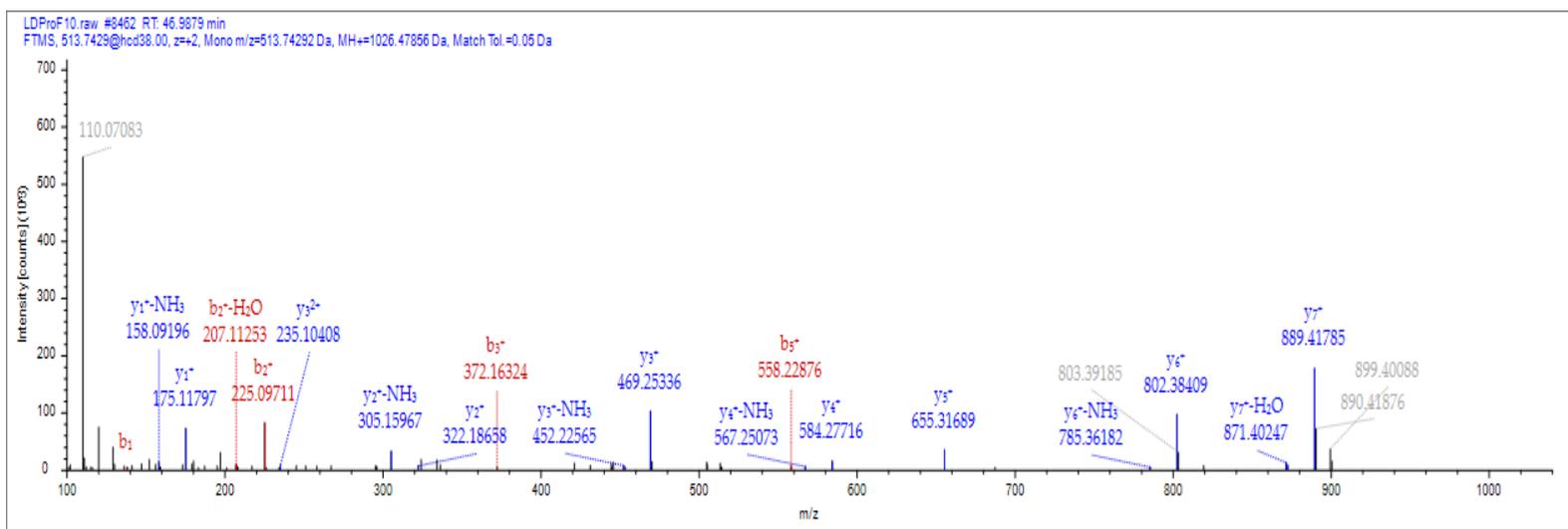
Novel\_4      VAQVFLD TAVTNAVCS ELLN RVRV R VIERDDYLSFFRSDRSHMQKEPGVYRTLPPQ 180  
 LSCM4\_02987      VTQVFLD TATSHVCS ELLN RVRV R VVEREDYLSFLRSDRSHMQKAPGVYRAKPPP 180  
 \*\*\*\*\*

Novel\_4      WPLINGCSTCVGDEVRRRAESTLSALPSTLRANNLVCFINAANTTIPGVIIDRHSFADFF 240  
 LSCM4\_02987      WPSVSGSSASVGDEVKKRAEAVLSALPSNLRANNLVCFINAANTSIPGVVMDRHSFEDFF 240  
 \*\*\*\*\*

Novel\_4      R 241  
 LSCM4\_02987      L 241

## C

HSFADFFR



**A** Novel gene 5: Hypothetical protein

*Leishmania donovani* CL\_SL Chromosome 33 (Positive strand)

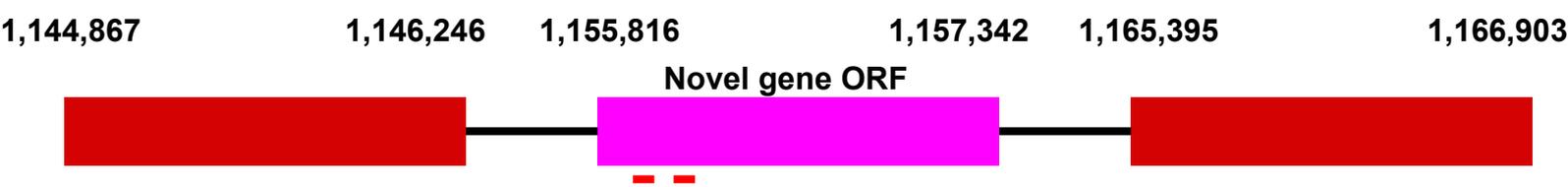
Current Annotation

Gene: LdCL\_330035800

Gene: LdCL\_330035800

3-oxoacyl-carrier protein synthase ii

MRB1-associated protein



**B**

Novel_5	MPSLQRPNSWMEAAAAHPPLTAVPNTVVSASQMGHANTSTRSSMRRRVHSATAASASTVG	60
LDHU3_33.4010	-----MEAAAAHPPLTAVPNTVVSASQMGHANTSTRSSMRRRVHSATAASASTVG	60
	*****	
Novel_5	AGSPMPHFFIGAAPQAYSSPTFYRDPALRGNDRAGTASPFVRLSSSQQAELRANRSDSR	120
LDHU3_33.4010	AGSPMPHFFIGAAPQAYSSPTFYRDPALRGNDRAGTASPFVRLSSSQQAELRANRSDSR	120
	*****	
Novel_5	TMPPPPPPPPNLAHEHDSRQERSFIFQLRGLPFAATRKDVESFLRTVDYDQLDVGTLAT	180
LDHU3_33.4010	TMPPPPPPPPNLAHEHDSRQERSFIFQLRGLPFAATRKDVESFLRTVDYDQLDVGTLAT	180
	*****	
Novel_5	GESSGNAFVELHGLRAAEKLGRLHNTVITVAADASVPARERPRPRYIEVLDAARREQV	240
LDHU3_33.4010	GESSGNAFVELHGLRAAEKLGRLHNTVITVAADASVPARERPRPRYIEVLDAARREQV	240
	*****	
Novel_5	LRIDVLTARSALPLPRRFRAAAAAAANTSSVSGTSTDASQQQQQHPVRQAQHQAQAFVQPPP	300
LDHU3_33.4010	LRIDALTARSALPLPRRFRAAAAAAANTSSVSGTSTDASQQQQQHPVRQAQHQAQAFVQPPP	300
	**** . *****	
Novel_5	QMSAEGGVRYFTTSPMTPLSVSSTLITPVSSQRFVDVSRVCSPSATWNAYAQQQHSAPP	360
LDHU3_33.4010	QMSAEGGVRYFTTSPMTPLSVSSTLITPVSSQRFVDVSRVCSPSATWNAYAQQQHSAPP	360
	*****	
Novel_5	LPSSTMSMPHLVASQPAPVGSSGAPPMVRIQNEGSGVMRSATSAPSAFYQFATPIAPQT	420
LDHU3_33.4010	LPSSTMSMPHLVASQPAPVGSSGAPPMVRIQNEGSGVMRSATSAPSAFYQFATPIAPQT	420
	*****	
Novel_5	QDPQQQRPVSTPNVSYFVVAAVPSPATLSEARSTYYVAPLSSTQAATAGSYYYLGGSGSP	480
LDHU3_33.4010	QDPQQQRPVSTPNVSYFVVAAVPSPATLSEARSTYYVAPLSSTQAATAGSYYYLGGSGSP	480
	*****	

**C**

SFIFQLR

## A Novel gene 6:Hypothetical proteinb

*Leishmania donovani* CL\_SL Chromosome 32 (Negative strand)

Current Annotation

Gene: LdCL\_320037500

Gene: LdCL\_320037600

Hypothetical

ATPase

2,817,803      2,819,224      2,820,110      2,820,433      2,820,981      2,822,036

Novel gene ORF

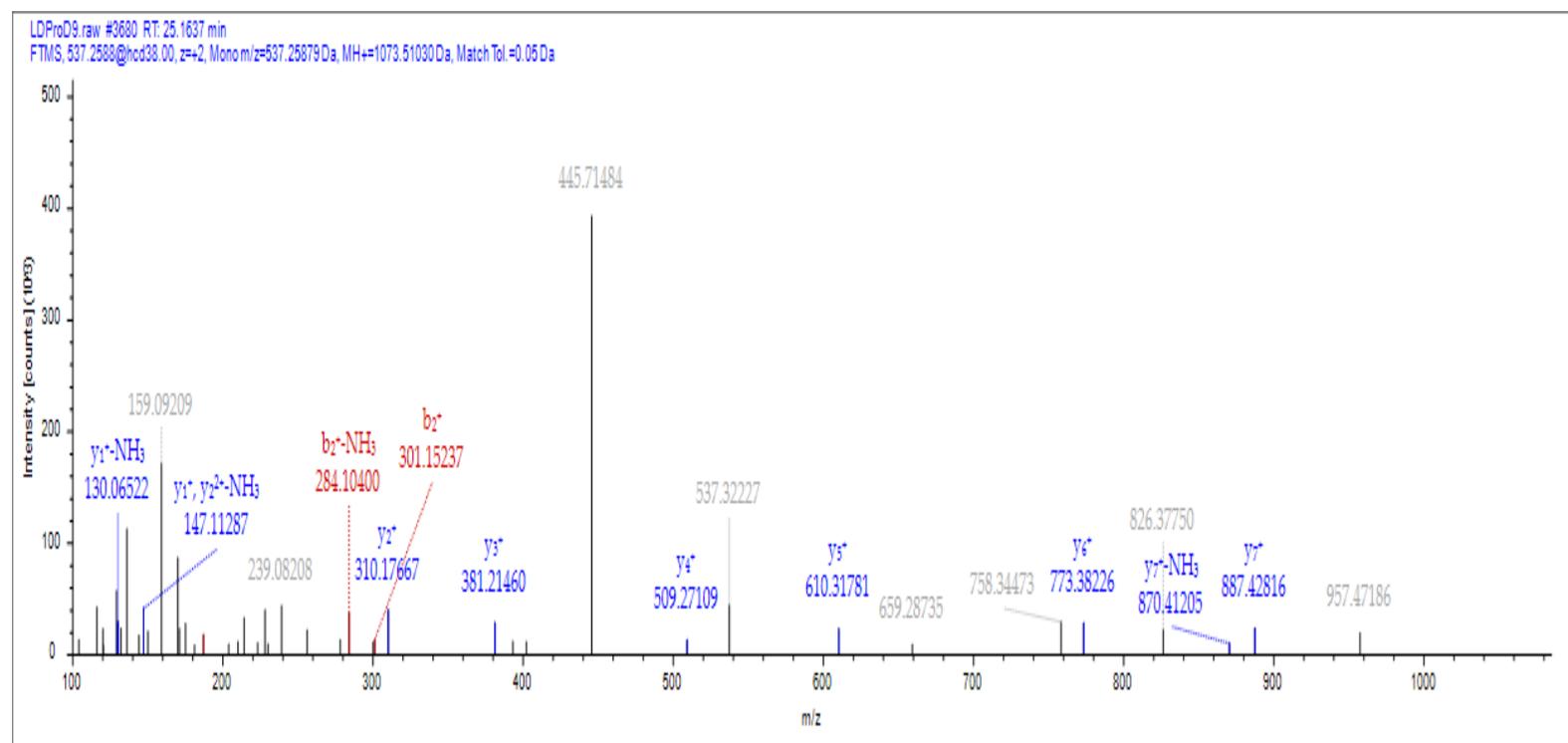
## B

Novel_6	MLFRATAPSCMMFRPTLPSSMIFRPTSVNFVAHWFCGHKFRHRFMRDKRFHPSHQACDA	60
LTRL590_360080700	MLFRVTAPSCMMFRPTLPSSMIFRPTSVNLVAHWFCGHKFRHRFMRDKRFHPSHQACDA	60
	****,*****;*****#	

Novel_6	RNRESKRRHEKTNRWNYTQAYKDMP	85
LTRL590_360080700	RNRESKRRHEKTNRWNYTQAYKDMP	85
	*****	

## C

WNYTQAYK



# Supplementary Figure 7

# Promastigote life stage

## A Novel gene 7:Hypothetical protein

*Leishmania donovani* CL\_SL Chromosome 25 (Negative strand)

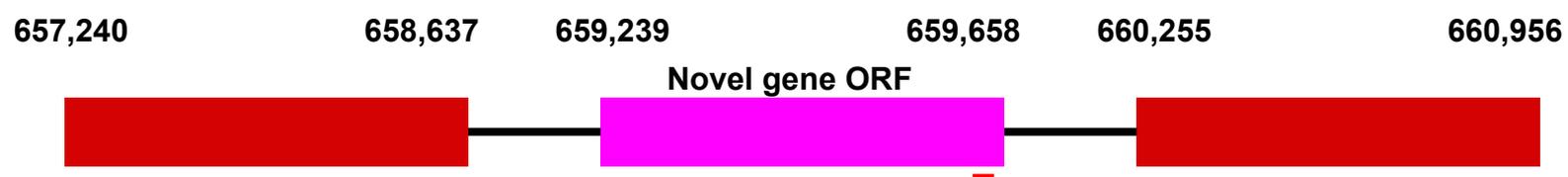
Current Annotation

Gene: LdCL\_250022700

Gene: LdCL\_250022900

Hypothetical

Elongation factor P (EF-P)



## B

Novel\_7 MILFSAPLPSSLLSLCIAAREAASSTATTTPAVTLAMTQPLPPAREKAITRLPQYFPTSCKQ 60  
 LdBPK.25.2.001710 MILFSAPLPSSLLSLCIAAREAASSTATTTPAVTLAMTQPLPPAREKAITRLPQYFPTSCKQ 60  
 \*\*\*\*\*

Novel\_7 CATQTDFFRCFEAHAVMMDGHDVTTAKTSLQHCQTELREYMTCKEYLAAKNKHWWKVV 120  
 LdBPK.25.2.001710 CATQTDFFRCFEAHAVMMDGHDVTTAKTSLQHCQTELREYMTCKEYLAAKNKHWWKVV 120  
 \*\*\*\*\*

## C

TSLQHCQTEL

