

Table S1. Primers used in this study. *Sph* I restriction sites on forward primers and *Sal* I restriction sites on reverse primers are underlined.

Primer	Sequence	First aa residue encoded within construct
TDE2318FOR	GCCATAGCATGCTTAGATATATCCACTCCCATT	25
TDE2318REV	GAGTACGGTCGACTTAGTGCCATACGGCGACAGG	307
TDE2753FOR	GCCATAGCATGCGATATCATAACTTATTCGGAT	2
TDE2753REV	GAGTACGGTCGACTTATTTTAATACGGTTAATGG	363
TDE1738FOR	GCCATAGCATGCGCCCAAGTCCCCTACCCTCAA	20
TDE1738REV	GAGTACGGTCGACCTATTTTTGTGTATTTACAAA	303
TDE0110FOR	GCCATAGCATGCTCAAGAACACGAACATATAAA	2
TDE0110REV	GAGTACGGTCGACCTATTTTTTTCTTCCGGTATT	343
TDE2189FOR	GCCATAGCATGCAAGGAAGTTTCCGATATTGAA	25
TDE2189REV	GAGTACGGTCGACCTAAAATAATTCTTTTTTTAA	316
TDE1136FOR	GCCATAGCATGCAGAATAGAAAAATGGGGCGTA	2
TDE1136REV	GAGTACGGTCGACTTACCGCCCCTTTTTAAATTC	167
TDE1297FOR	GCCATAGCATGCGAAGATATCGTGCATATAATC	22
TDE1297REV	GAGTACGGTCGACCTAGAGGCCTCTCGGGGCCTT	301

Supplemental data

Fig. S1. Amino acid sequence alignments of seven *T. denticola* proteins with *T. pallidum* Tp0155 fibronectin-binding protein showing sequence consensus and degree of identity from highest (e.g. **A**) to lowest (e.g. A).

Fig. S2. Alignments of homologous *T. pallidum* and *T. denticola* proteins. Predicted signal sequences are highlighted in **green**, LysM domains in **blue** with the LysM motif in **pink**, M23 peptidase sequences in **red**, and active sites of the M23 peptidase in **yellow**.

Fig. S3. PCR amplification of DNA corresponding to genes of *T. denticola* that were homologous to known *T. pallidum* fibronectin-binding proteins. Positions of bp markers are indicated at the side of the figure.

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tp0155 (1) -----MSVYCRSSKQTVREPCRPVPGALLLFFVTLLLLA
TDE2318 (1) -----MKKTNLYLFAGIIVFLLLV
TDE2753 (1) MDIITYSDAVHHNNRSYHSNRYRKPNTVKKSRLSSRDESLIVFGLLAMLT
TDE1738 (1) -----MKAFKFLFLFFFLSGSI
TDE0110 (1) -----MSRTRTYKRAENNLVRYFNELFK
TDE2189 (1) -----MLKKGFSQVLLFFCFLFALH
TDE1136 (1) -----
TDE1297 (1) -----MYKKNILRPLFFFILSFFS
Consensus (1) KK LLLF L LL

tp0155 (35) LALAYFGAQV-----EPLTPALTLTEQEPRQASGYVSSLRARIVQEDA
TDE2318 (18) LGTAYFALDIS-----TPIGTSQTVLDDGMGGDTRLPTFRPDKEISEIT
TDE2753 (51) AGFLFFYFPILKLNWGLSSIRSISFWEEPSSINAMRQYTMPSSSEIVKEDG
TDE1738 (18) LKAQVPYPQIEK-----LHIDDIIFVQYCDDVADARKALALAKTGNELP
TDE0110 (24) AFCTSVSKGVMKFINGGRKLTVMVPHSQKRIVNFQASIFSIVFVSVLL
TDE2189 (21) PSGKKEVSDIEQ-NGKSEKALYIISLPESGDLGSFFNVKFKAAARKIEKAW
TDE1136 (1) -----
TDE1297 (19) CFAEDIVHIEKGI-----DTLYSISKKYNTPIDSIKKNNLSDPSK
Consensus (51) I K ITL A SL AK V E

tp0155 (79) EP-----ALYYTVYEVREGDVVGRIAQRYDIS-QD
TDE2318 (63) LP-----PLDYIVYSVKKGDMVGEIASRYGVS-QD
TDE2753 (101) LPYSETAEGSSFSPADVPDFITAVDFEYEMVSKGDTVSGIIQKFLKNLG
TDE1738 (62) IR-----FYTYKANSEDTIIKIAARCSIP-YD
TDE0110 (74) VG-----ILASFFWFAAESVASARKLANLKEETRK
TDE2189 (70) IT-----IYDTSEKKVQTIINAFPLDKTEKEWA
TDE1136 (1) -----MRIEKWGVFAIK
TDE1297 (60) IKIG-----QKLIIPVESSAKNDKKTNAKTGS
Consensus (101) I L F Y V DTVAKI KY I

tp0155 (108) AIIISLNKLRSTRALQVGQLLKIPSDGILYTVKNGDTFSSIAAAHQISLE
TDE2318 (92) AIIISLNKLRNTRTLQIGQLLKIPSMGIVYTPKKGDTPEKLDATYKISLE
TDE2753 (151) TLLSVNGISSAKKLRIGQKLIIPSIDGLIYTAVKGDSSLSSIAGKFNLSIN
TDE1738 (88) AIVTLNRIESVQTDIAGRVLILPTMPAVYLPEKALSSIEKLTEALFRKKNK
TDE0110 (104) TQASLNVLKNETNDLKKNAKNFQSTLSSTLTSLGLQSIMETGTENDDSSD
TDE2189 (97) AIAAVAVVWWSKSKWKIRTHLIIDGALFEEDRGFEVLEREFEEYVMKLSKK
TDE1136 (13) EGRIIKINRDAKASVYGNVVIKDRQGIISRYAHLKSIAVNVGQTVPAGG
TDE1297 (87) EEITHVIQKGDTLYALAKKFGVKFSDILKLNGLNEKTPLKIGQILKIPQG
Consensus (151) AIIISLNILR K IGQ LIIPSMDGII T L SI IA IS

tp0155 (158) RLVLNTPSSSKESPSPSVRTLVS PFYNSAARESCVPPFSSAKQWRENTS
TDE2318 (142) KLALVNNISDNN-----
TDE2753 (201) AILDANDLENQT-----
TDE1738 (138) TEPLKIKIYGPE-----
TDE0110 (154) LSLLFNVQEQAQG-----TAREVSEL
TDE2189 (147) NSQILRDKSPKK-----
TDE1136 (63) FLGIMGDTGRGIP-----
TDE1297 (137) KSQGTAEQESK-----
Consensus (201) L LLN

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tp0155 (208) FDAVQPLQPARVLFPLGAHL SARALQEINGDLFRAPLRSRY-YVSSRYGW
TDE2318 (154) -----VLKAGAAIFLPLDAKLDWVTLQEINGDLFKSPIRGGY-RVTSRYGW
TDE2753 (213) -----VSIGQKLFIPGATMSSFELKKALGELFIYPVIG---RLTSPFGY
TDE1738 (150) -----EKREIFCFPGEIFDGTVRAFFFMFPHYRFPLKD-A-VITSSFGK
TDE0110 (175) KKLSAYLQDTIQPVQEMAKLMDTQTALFSDIPSLWPIKGGIGHITMAFGQ
TDE2189 (159) -----TEQRNRFAEVLKVQNLESLYFKGLFAMPFDAKRISSTFAEKR
TDE1136 (76) ----GPNKHLHVSVPATTKDPYMGKDATI DPKSYILDRGIYPCNSKPKST
TDE1297 (149) -----APQDGKQEKTSITKAGSDKETQAVKPKSTSTKQADSKLLW
Consensus (251) L PGA L A DLF YPLKG ITSFGW

tp0155 (257) RSDPFTGAR--SFHNGLDMVSRR-GTPVYSALGGIVRTVGYSAVYGNyli
TDE2318 (198) RRDPFTGKR--SFHNGIDLATYR-GAPIYAALPGTIAATGYSNVYGNyVI
TDE2753 (254) RRDPFTGRK--SFHTGIDIASPI-GTPIKLTLDGTVSYTGYSAVYGNyVI
TDE1738 (191) RQDPFTGKA--SYHPCIDIAAPT-GSPVMACAAGRvKEISYNKVYGNyII
TDE0110 (225) NRHPFTGQW--YIHTGIDLATGRSGDPIMATADGQVITVETDPGWGNyII
TDE2189 (201) TSKYPDGKTSVSRHWGIDYPSPI-GTPIFAPGTGKVVLAENRIVTGWTLV
TDE1136 (122) DFHQMIGNPP-YPHEGLDFSGLD-----KN----II
TDE1297 (188) PVPASKVAYLSGKITGVVIDSVK-GQAVKAVSSGKVVSTGPHRFGQVVF
Consensus (301) R DPFTGK SFH GIDIAS R GTPI A G V GY VYGNyII

tp0155 (304) VGHHAGYQTLYGHLLQTVLVSAGTRVTSATKIGLLGKTGRSTGPHLHFTIY
TDE2318 (245) IRHHSYGQTLYGHMNSILTSRGKYVTAQSKIGTVGTTGRSTGPHVHFTVY
TDE2753 (301) VTHSGGYQSMYGHMNSIKVRRGQILNQGQGIIGTVGNTGRSTGPHVHFSVY
TDE1738 (238) LTHTDGRASLYGHLSKVYASLNETIKSGTIIIGAVGSTGMSTGPHLHFEIH
TDE0110 (273) IKHKHGFFTRYAHLSSFRVTRGQHVQKQVIGYIGNTGISTGPHLHYEVH
TDE2189 (250) IEHAPAVYTIYYHLNKHVKEGSLVKQGEKIADIGTTGFSTGPHLHWELR
TDE1136 (148) TGWEAGTFEIKNIFEEFKKGR-----
TDE1297 (237) VQSKTKHIYVYGGMEKIVVKKGDTIavgQKLGEIGVELLIGKARLYFMVY
Consensus (351) I H GY TLYGHLSI VSRG V G KIG VG TG STGPHLHF VY

tp0155 (354) KNGSAINPTSLLRMRTLp---
TDE2318 (295) KNGATINPVAVWH-----
TDE2753 (351) KDGKLINPLTVLK-----
TDE1738 (288) EQGIPKNPANFVNTQK-----
TDE0110 (323) IGSDVVDPMKYLNiKNTGRKK
TDE2189 (300) INEIPADPELLLKkELF----
TDE1136 (169) -----
TDE1297 (287) DKNKPIDPAKAPRGL-----
Consensus (401) NG INP LLK

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Fig. S1 (b/w)

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tp0155      (1)  -----MSVYCRSSKQTVREPCRVPVVGALLLFFVTLLELLA
TDE2318    (1)  -----MKKTNYLFAGIIVFLLV
TDE2753    (1)  MDIITYSDAVHHNNRSYHSNRYRKPNTVKKSRLLSSRDESLIVFGLLAMLT
TDE1738    (1)  -----MKAFKFLFLFFFLSGSI
TDE0110    (1)  -----MSRTRTYKRAENNLVRYFNELFK
TDE2189    (1)  -----MLKKGSFQVLLFFCFLFALH
TDE1136    (1)  -----
TDE1297    (1)  -----MYKKNILRPLFFFILFSFF
Consensus  (1)  -----
                                   KK   LLLF  L LL

tp0155     (35)  LALAYFGAQV-----EPLTPALTLTEQEPRQASGYVSSLLRARIVQEDA
TDE2318    (18)  LGTAYFALDIS-----TPIGTSQTVLDDGMGGGDTLPTFRPDKEISEIT
TDE2753    (51)  AGFLFFYFPILKLNWGLSSIRSISFWEEPSSINAMRQYTMPSSSEIVKEDG
TDE1738    (18)  LKAQVPYPQIEK-----LHIDDIYFVQYCDVDADARKALALAKTGNELP
TDE0110    (24)  AFCTSVSKGVMKFIINGGRKLTVMVPHSQKRIVNFQASIFSIVFVSVLL
TDE2189    (21)  PSGKKEVSDIEQ-NGKSEKALYIISLPESGDLGSFFNVKFKAAARKIEKAW
TDE1136    (1)  -----
TDE1297    (19)  CFAEDIVHIIEKG-----DTLYSISKKYNTPIDSLKKNLSDPSK
Consensus  (51)  -----
                   I K           ITL           A   SL  AK V E

tp0155     (79)  EP-----ALYYTVYEVREGDVVGRIAQRYDIS-QD
TDE2318    (63)  LP-----PLDYIVYSVKKGDMVGEIASRYGVS-QD
TDE2753    (101) LPYSETAEGSSFSPADVPDFITAVDFEEMVSKGDTVSGIIQKFGKLNLG
TDE1738    (62)  IR-----FYTYKANSEDTI IKIAARCSIP-YD
TDE0110    (74)  VG-----ILASFFWFAAESVASARKLANLKEETRK
TDE2189    (70)  IT-----IYDTSEKKVQTINAFPLDKTEKEWA
TDE1136    (1)  -----
TDE1297    (60)  IKIG-----QKLIIPVESSAKNDKKTNAKTGS
Consensus  (101) I           L F Y V   DTVAKI  KY I

tp0155     (108) AIIISLNKLRSTRALQVGQLLKIPSVDGILYTVKNGDTFSSIAAAHQISLE
TDE2318    (92)  AIIISLNKLRNTRTLQIGQLLKIPSMGDGIVYTPKKGDTPEKLADTYKISLE
TDE2753    (151) TLLSVNGISSAKKLRIGQKLIIPSIDGLIYTAVKGDLSIAGKFNLSIN
TDE1738    (88)  AIVTLNRIESVQTDIAGRVLILPTMPAVYLPEKALSSIEKLTEALFRKNK
TDE0110    (104) TQASLNVLKNETNDLLKNAKNFQSTLSSTLTSGLQSIMETGTENDDSSD
TDE2189    (97)  AIAAVAVWWKSGKWKIRTHLIIDGALFEEDRGFEVLEREFEEYVMKLSKK
TDE1136    (13)  -----
TDE1297    (87)  EEITHVIQKGDITYALAKKFGVKFSDILKLNGLNEKTPLKIGQILKIPQG
Consensus  (151) AIIISLNILR  K   IGQ LIIPSMDGII T   L SI  IA   IS

tp0155     (158) RLVLLNTPSSSKESPSPVRTLVSFPFYNSAARESCVPPFPSSAKQWRENTS
TDE2318    (142) KLALVNNISDNN-----
TDE2753    (201) AILDANDLENQT-----
TDE1738    (138) TEPLKIKIYGPE-----
TDE0110    (154) LSLLFNVQEQAQG-----TAREVSEL
TDE2189    (147) NSQILRDKSPKK-----
TDE1136    (63)  -----
TDE1297    (137) KSQGTAQEQESK-----
Consensus  (201) L LLN

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tp0155 (208) FDAVQPLQPARVLFPLGAHLSARALQEINGDLFRAPLRSRY-YVSSRYGW
TDE2318 (154) -----VLKAGAAIFLPLDAKLDWVTLQEINGDLFKSPIRGGY-RVTSRYGW
TDE2753 (213) -----VSIGQKLFIPGATMSSFELKKALGELFIYPVIG---RLTSPFGY
TDE1738 (150) -----EKREIFCFPGEIFDGTVRAFFFMFPHYRFPLKD-A-VITSSFGK
TDE0110 (175) KKLSAYLQDTIQPVQEMAKLMDTQTALFSDIPSLWPIKGGIGHITMAFGQ
TDE2189 (159) -----TEQRNRF AEVLKVQNLES LYFKGLFAMPF DAKRISSTFAEKR
TDE1136 (76) ---MRTEK WGVFAIKEGRI IKINRDAKASVYGNVVI IKDRQGIISR YAHL
TDE1297 (149) -----APQDGKQEKTSITKAGSDKETQAVKPSTSTKQADSKLLW
Consensus (251) L PGA L A DLF YPLKG ITS KFGW

tp0155 (257) RSDPFTGAR--SFHNGLD MVSRR-GTPVYSALGGIVRTVGYSAVYGNyli
TDE2318 (198) RRD PFTGKR--SFHNGIDLATYR-GAPIYAALPGTIAATGYSNVYGNyVI
TDE2753 (254) RRD PFTGRK--SFHTGIDIASPI-GTPIKLTLDGTVSYTGYSAVYGNyVI
TDE1738 (191) RQDPFTGKA--SYHPGIDIAAPT-GSPVMACAAGR VKEISYNKVYGNyII
TDE0110 (225) NRHPFTGQW--YIHTGIDLATGRSGDPIMATADGQVITVETDPGWGNyII
TDE2189 (201) TSKYPDGKTSVSRHWGIDYPSPI-GTPIFAPGTGKV VLAENRIVTGWTLV
TDE1136 (122) -KSI AVNVG--QTV PAGGFLGIMGDTGRGIPGPNKHLHVS VYPATTKDPY
TDE1297 (188) PVPASKVAYLSGKITGVVIDSVK-GQAVKAVSSGKV VSTGPHRGFGQVVF
Consensus (301) R DPFTGK SFH GIDIAS R GTPI A G V GY VYGNyII

tp0155 (304) VGH HAGYQTLYGHLQTVLVSAGTRVTSATKIGLLGKTGRSTGPHLHFTIY
TDE2318 (245) IRH HSGYQTLYGHMNSILTSR GK YVTAQSKIGTVGTTGRSTGPHVHFTVY
TDE2753 (301) VTHSGGYQSMYGHMNSIKVRRGQILNQGGIIGTVGNTGRSTGPHVHFSVY
TDE1738 (238) LTHTDGRASLYGHL SKVYASLNETIKSGTII GAVGSTGMSTGPHLHFEIH
TDE0110 (273) IKHKHGFFTRYAHLSSFRVTRGQHVQKQVIGYIGNTGISTGPHLHYEVH
TDE2189 (250) IEHAPAVYTIYYHLNKI HVKEGSLVKQGEKIADIGTTGFSTGPHLHWELR
TDE1136 (148) MGKDATIDPKSYILDRGIYPCNSKPSTDFHQMIGNPPYPH--EGLDFSGL
TDE1297 (237) VQSKTKHIYVYGGMEKIVVKKGDTIAVGQKLGELGV ELLTGKARLYFMVY
Consensus (351) I H GY TLYGHLNSI VSRG V G KIG VG TG STGPHLHF VY

tp0155 (354) KNGSAINPTSLLRMRTL P-----
TDE2318 (295) KNGATINPVAVWH-----
TDE2753 (351) KDGKLINPLTVLK-----
TDE1738 (288) EQGIPKNPANFVNTQK-----
TDE0110 (323) IGSDVVDPMKYLNIKNTGRKK-----
TDE2189 (300) INEIPADPELLLKKELF-----
TDE1136 (169) DKNIITGWEAGTFEIKNIFEEFKKGR
TDE1297 (287) DKNKPIDPAKAPRGL-----
Consensus (401) NG INP LLK

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Fig. S2 (colour)

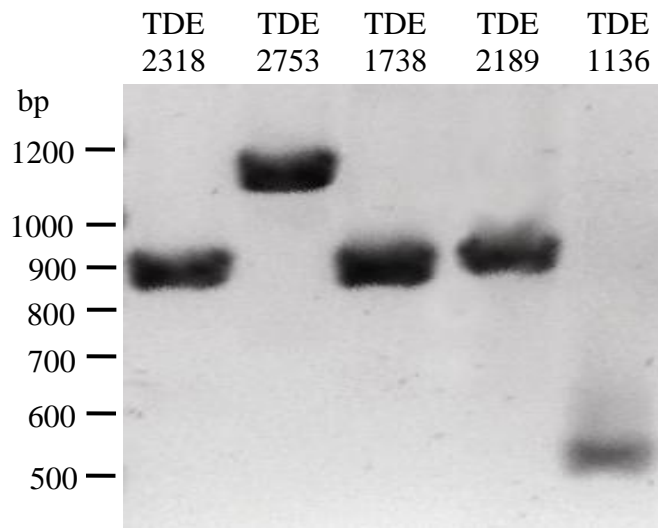


Fig. S3 (b/w)