

### Supplementary Data 1

#### FASTA sequences of Target proteins of *Trichomonas foetus*

>OHS97275.1 GP -63 Like protein Clan MA, family M8 [Trichomonas foetus] MIFAIQIVSATNCFHDSLQSQINIRKLQFPDPGLMDEDEIIEREPIRIVFDISSLTSDYDPSVCRTE QAVSWGGREEICTKDDIITPEKISSLNTTLNNVNLYSSVLNVRTLKGGFDISNITDITVLERHVDCTF ITVTRPFGTHRSTSLASAFYEITDPVNGRPVQGAIVVNAANIPAEQNESSFDRIYFTLLHELVALG VSYRAIPSWIDPNTNQPYEHLPIIEYSATKYPHKVFRILQTKNVHEFAAERFGVEYFAPDVPAGLELEDG GGVGTFGSHAEARVYIDDMFVGLTIGQNRISKLVFALLADTGWYDVSYEKAEKSAWGLGESLNSPLTTF PNTAPQHAFPKHYMCDPSDIDTDVCTYDFLGIALCKGVKVDCLPSDEDDQKFCEMRNFTDPLRIGLRGR SEVHDYLLYKAPYSNSRCSDISRNTDSAYKNGELYGGESLCFMSTLLRSSFSFYTYHGCACHRSICDENG SLIVYVDGIGKICEKANQKLSFSGFKGEIICPEPSYACGIRKFYGIVGPTVPVSPNPPTIWEGFSLDSN QTIIIAVFASVTGLIIFMAVVMQVRAKKAADAKEAEEGVGPSMEGKDDPYEAVKPLVL
>OHT02241.1 Adhesin [Trichomonas foetus] MREVIFPRKILPFLKVLKNYFCGEGGKWIIVSKFVPDYNFYGLNSAVVTVGSTKTVLNNCSIVTNSTGSN AVFATDSGTFEITNIRIKTYKDSSRGLDSTYSGNITAYGININTEGEHCAPLATDRGEGWVTVFGNSNNQ MNLKSSGEGSPCVYSTGNITVVDVIGEATGSEAAVVEGKNSINLTNCELVGYVKHGIMLYQSMSMDADI GTALFYSYHSSITTKSEGPMIYITNTHAKAYFYNSSFTFTSNILLKAAADQWGDEGSNGGSCEMLIENMS TTGDVIAAADDNLTLTVVASNWSGNVEGNVLVIKKDSEDDDDGEDIVPTDKSQTLRSRNAIIGIGVAAGVA VIALIAIIVYVIKKKRNPQSPGFNKI
>OHS95735.1 Hypothetical protein TRFO_10391 [Trichomonas foetus] MGKEVSELTRFQHQSGGFYDNVREANARDTFHAIWISSIYGAFQYIDTQRCFRWFTTLRNRDGGAGLVPG SKSSVFATYCHFNLAAIISPDAIDVARIIEFLKSCYDEPSGLFRDSESEPSIEATYYAYELLSRFRNAE ITWLTSYNLQYINDHLNDDHFEFDGVSMLKAQLWAGSIKFSVSLTVPYHRISFIVNHLNQAIKDNKLD NEDAAAAARILKLFGEAIPQLSASFSSGLADLFYINQILVATGEVTKFFEVEHVHLSLSDGNHLIDFE KDGLTYGQIARPALAITALGRFINTMLQVNVTTHTIGDEAPTETLTKIDYQTGLFNSQRISINKLQMQI DVVAWLATEFGTPVVITKSVVSRVSLPIDVTSEAWLSADEPIPVGGEIVPGVNFVRVQLNGKLDIHKLE DTTAATFQVTDPAVAVLYHKFEDFKGQLEFTWQLPSLALPAGDLHVTVEIGDKVNGIHTHKEFTYKVSST MAASGVEVPANLRLSDVLRVKMVPALIVNEAPVPFTNEKFFEGDLRDATGEAFYPTASEAQRVTMRVKV GDVVVKTVEGEVSVDDQNKLSVEFESNVNENLDFATGFSIDFLFNAEGSEPVLLDLEKEIFVQVSSKVVV EAQPLVSGAVDYGSKITSEFRKDEDSGNYLEAGRAYPVIAILRASDRTVLLEKKAKILSDKYKAKLTVT AAVESGNVIVAILIRKGGDLVPVQTAQGSPFESAVTVSGQIQFDAQVVEARKYVVVDFTTTYK GKALRGT AFMCRVVDQAQNAVAELPLAQMKKGSRLSWESGDAKGEYKLELRRLSATEGAPIFVKSISVESPILSIH HLPVEGITLAVAFVWSIRVRKQIQSTR
>OHT11175.1 Immuno-dominant variable surface antigen-like protein [Trichomonas foetus] MSLILLWFTCLIKSEGTKPEYLHSIFGAPGKEEVVIDYVDGIEILERNLKPCLKHIREAHYTDPIEDND YPWPGHDFNGTATWAALNNETNKVRAEFSRTNLQEEMYWHPAAAKQYYTTNEVIAEAERVKIRYIISPK YNRHVPPILIPPGEVAKMEISPAAVGKVGVTLNRYMSNIWTLQNGQPKYQRLIHTRIDNLKLTSTVNGI GMPWGATVNFDMVNDPIEVNITGVILCPWFTYGVHSDSEWENEMSKLPGPFSPISTGNM
>OHS93232.1 Polymorphic membrane protein like protein [Trichomonasfoetus] MSKENRPNFKDLKDTTLDIDNKFRKLDRFSSQSFNKESRTERSYLESVYITSTSFTECFSYGSTYFLGC GGAIFLCNSQLSIKNTLFTKNSARVGGAGLYASNVEIEGSSSLVKFTSNKADFLGGAIFFSTQGDSDD MKAQNFFQISFCDFGTGNEAKEISGAVCIYSVFDSDWIDHCIFDNNRAQHLSGALGFYNCQGMFVFKSTFVN NTSGHRAFIQNSNFQPYQLKSFRLNHLKGGGGIFVQVKENTRKDLTSDDYRAKLVFATQHCFFANNTCD SKLRTEPYNQGFILFGGIVTYQSYTDIFLNVKNVSLGGHMNTDFIFAGTTFYDQDTEWDTLTSNINQFF MVEERFPNLKSDIYDKLSVDKYEWPPAALTDIPAGPVNNAADSIDNNDLPANTAPATKLPERTTRGGQ PAASTILPEWHVSSVSRVHYVSPMSPTESPTESATESATESPTESPTESATESATESPTESPTESATE SPTESPTESATASATESPTESPTESATESATESPTESPTESPTESATESATESPTESPTESATE TESATESPTESPSLSPESATQSATCPSLSPESATSSATESPSISATESATESPSLSSEIVDDNLEVE KDKSQFTTGKTAGLAILFGFIVVVALVSFATNSIYKMKKARLEDPNDDNNGSSDRPETRMSNTETMSV VSMNDTIDDPFAEDFDENIIQICAPL