

Kle-beta_At	-----MTSHGGGGEVGRERHTVQPERDLVAN-----WEVDLSEKLEVEYLLKI-----	42
Kle-beta_Hs	-----MEDVEARFAHLQPIRDLTKN-----WEVDVAAQLGEVLEEL-----	37
Kle-beta_Mm	-----	
Kle-beta_Anopheles	-----	
Kle-beta_Dm CG14685-PB	-----MERILPEEAABAAYLSEAREQILIAKNRPGTQVAKCIRAYDEQDASLVLVLEELSKVTDYSDDLRLSLGYVTEELL-----	78
Kle-beta_Ce C29E4.2	MASAVGKGVAFNTIKNIISELKKVDKTFSPNSAOYKYLMEQMKADQVTRRYSKAENESESAKLYLSYIKGTROLNELQERYKGGKEVEEAAMITRNAPPGESESTDLAWLVTAKDLVENFSDVLDKALAGVLEVIR	141
Kle-beta_Cryptosporidium_1	-----MENIFLLKSVENKDFSLN-----WNTDVSAAELKLYLSAIFELLDEDMN-----	42
Kle-beta_Plasm_falc	-----MSTT-DELNLL-----IQNLQKCNNTNEC-----INFDLSSITGQFLNCLD-----	40
Kle-beta_Plasm_yoel	-----MSTQCEDEVRL-----IQNLQKCNNTNEC-----INFDLASTIQEFLNSLD-----	41
ruler	1.....10.....20.....30.....40.....50.....60.....70.....80.....90.....100.....110.....120.....130.....140.....150	
Kle-beta_At	-----CSGETGNEEDGQIPVNFABAALLLQGSVQVYSKKVEYLVNVLVRLTEFLSKQR-----DQEQSKGTSINENAS-----	111
Kle-beta_Hs	-----DQICISFDEGKTMNFIEAALLIQGSACVYSKKVEYLVSLVYQALDFISGKRR-----AKQLSSVQE-----DRANGVASSGVVQE-----	113
Kle-beta_Mm	-----MNFIEAALLIQGSACVYSKKVEYLVSLVYQALDFIS-----GKRRRAKQLSL-----VQEDGSKLVNSETPCE-----	63
Kle-beta_Anopheles	-----	
Kle-beta_Dm CG14685-PB	-----RCLGRNDVSRSSAIVAGSALQYCGKIYGDVVEYLCQVVEHQIEALLTSELKETSQSAAPKERNRPEETKRKHPKLTNKEVDPYLLLEPKRFK-----LMSDDKRFNAAGFVKCTRNRIEYLYQDHTPPNL	211
Kle-beta_Ce C29E4.2	-----QSEEDTDNQVDAATTYRLFDFQRACRIIQGSACVYGRKVDHVVELTISVVDLVENKQDDGNTGSRRGAGRR-----KNFNLGSTNYDLADIDSLKQALANFKTVKEKKSIDAVRMVENAEVLESQYERKS	270
Kle-beta_Cryptosporidium_1	YSQSTEAANGYGNENITNSNGSYMOMFNVEAALLIIONSTSLYSKKIEHLHSLVDFADHLLSTGKSLND-----GKIQHDEHTNSQLANKNIAEKTAFALMSNMVSVPIN-----	152
Kle-beta_Plasm_falc	-----RNVLENIDKGLGENEYKVEVDNFTSAAIFVENCVKILFSQKIEHLHLAHTLYNIYKKNK-----HNSSS-----KKNQLIMSDEBEYLYINEIKNMKNTQHDNDIIEDDLIKIPFPT-----FLFSDNI	158
Kle-beta_Plasm_yoel	-----KNSFEDIDKTIREKDKDLMSFTSAAIFLENCVKILGLKIEHLHLAHTXNYNIYKKNK-----NNSNKKK-----LLIIDEVLYINEIKNKNITITENDIIEEDLLIKIPFPT-----FLFSDHI	157
ruler160.....170.....180.....190.....200.....210.....220.....230.....240.....250.....260.....270.....280.....290.....300	
Kle-beta_At	-----SSRQVDEEENLDFVNVDDIPEQISNPAIVDNIVDTKNRLDSSVGGDTCPFSQFV-----KPPANLVVLEGDCLDTSGDGGELESVLLATTHLYRDFILLDPCDAVAVNEFLGDNYGKGRNSAHRG	231
Kle-beta_Hs	-----AENEFLS-----LDDFPDSRTNVDL-KNDQTPSEVLIIPLLPMALVAPDEMEK-----NNPLYSRGQ-----EVLASRKK	178
Kle-beta_Mm	-----TENEFLS-----LDDFPDSRANVDL-KNDQASSELLIIPLLPMALVAPDEVEK-----NSSPLYSCGQ-----DILASRKK	128
Kle-beta_Anopheles	-----	
Kle-beta_Dm CG14685-PB	WKHAPIVDPHNPVDQDEKKQYKMFTHVHRYNTL-LPDIPFERLN--LIKEYVHTNQVNTTEILNEHMTTKEYLDEYIALEOMLAARYGAIVRRRRL	308
Kle-beta_Ce C29E4.2	CLVAKPQPFMFKLNYGQLNRDQOILNKRSPDVIQKVDKFEIKKSKVKHQDQOILYSHDCVRGNLDQFTLPGARWMP-----DNKELANFGVADLE-----	362
Kle-beta_Cryptosporidium_1	-----LLPGRNINLQFQFNNSLNDDISAKYSSYSSYIGVSSLGNISLQPYRID-----	204
Kle-beta_Plasm_falc	-----KTKTDIN-EDKRTKTFNNEEDKEKDNKNDNIDDAINEFEITDNNVNTLNFEKIFLIND-----	218
Kle-beta_Plasm_yoel	-----KVKNKID-----NHKNTIKNDEKNSLNNKKNLNSDIENIPIYDITLNESESITQKNVMDLNSSEYQNDNMDNMSMKNQTLKISS-----	243
ruler310.....320.....330.....340.....350.....360.....370.....380.....390.....400.....410.....420.....430.....440.....450	
Kle-beta_At	SSVRKSFHSSVGRSGGSARKSSVGKNQGTNVHLSPICGNPNONCDQGSQPPVFEDNDHGF-----	294
Kle-beta_Hs	-----FRMNTCVPHPRGAFMLEPEGMSPMEPAGVSPMPGTQKDIGRTE-----EQPMEVSVCRSPVPALGFSQEPGFSPEGFMPLGGGEDEDAEAEVLEPEASAPKAALPEKFRSPQCSAA	290
Kle-beta_Mm	-----FRMNTCMFNRGCFMFLDPEVGMCPVEVPPVPEPMPERSQKPEDAE-----EQPMEVSRGSPVPVVDISQEP-----DGPALSGGEDAEDAEGAEVLEVALEPAEPTSQCSAI	232
Kle-beta_Anopheles	-----	
Kle-beta_Dm CG14685-PB	-----VDSARFMEIDLDEGLAKKMCMDKNLPMDTNETVLIDQSLVDENSRSLTAEBSIMGISQAENST-----LKSSEVEATLSVSHIENSLSDSQEENPPLSSTLAINESSVLDSTRVDPIDKDLTLELIDSLDGSISM	437
Kle-beta_Ce C29E4.2	-----VELDLEQHEKISAVGPFKDFLSGREVVPPRFWIEQEAVRONQEIQSRATSRATIAAKTLRDS-----GFGSGQPTLRISQFVVEGRVKNRPSHTLTTGLVDMFVDRNFGSVMQNDPEPNTS	495
Kle-beta_Cryptosporidium_1	-----TSSNTLFLDEADLGYFTSNDVVEHEYLGDMPAENGMDYDFEQKE-----DQDEHLRQNDQEVVDDDMVVDNEDNPLGAELDEIEIESQDYIENFDNKENEL	300
Kle-beta_Plasm_falc	-----GILLDINDYNVFIIDPPNFIQKNST-----LLEKIDDFSRSSLYSSLNISKYVVENKNMDHIYKLYNHITDIINKNICDFIPLFRQD	305
Kle-beta_Plasm_yoel	-----VNSLNEFDKLFLENDGIILLDINDYNIFINDEYDFLQNKNSITLFEKYEFSSRNSIYLSNNLSEYIYEQNTIQHTYKINNTYDITSLRLCTDILLEFKTDFYSYDLALDVIKKNYLINKFERQKNK	369
ruler460.....470.....480.....490.....500.....510.....520.....530.....540.....550.....560.....570.....580.....590.....600	
Kle-beta_At	-----MDNEYGGAMDFSDTDADEDPWKPLNPEPKLKVKPFKVV-----KILKKIGWSIKDHMTSMFPLARPNGPISSELIEIWKMHGCASKDEQASQDIYYEKLREMLVNGGNQPCGANGVNDNKNHDEAN	423
Kle-beta_Hs	LPRRYMLREREGAPEPASCV-KETPDPWQSLDF-----FDS-LESK-----PFKGRFYSVPCEEALGQKRKRKGAALKDFHWYLAAYADH	373
Kle-beta_Mm	LPRRYMLRERQCAPEPASRL-QETPDPWQSLDF-----FDS-LESK-----VFQKGRFYSVPPGVEEAPQKRKRKGAALKDFHWYLDAYAEH	315
Kle-beta_Anopheles	-----	
Kle-beta_Dm CG14685-PB	EELSIDIQMTAGQSFDDEGVVLSDLDRQRLSPMLQMVSPSMEAKTLNITEMDADLIMNVPREVSVPTILLNVMLPIKRLRRKCFIKLPPHFDLFRQARLPKIKREGQOKSPPTTPTVLOIGREAPQNERPEPSPCSLEFDEDLKLLCHT	587
Kle-beta_Ce C29E4.2	RRPDENYAPMDFDDDDGGGDDDDDDYIRNLS-----RRDEKRAPAPWDELDKNHIWYTGDENLPSVSKFVKIKIKFQPKPAEMLARKQREKINKSRDEFMETHVLDYDYWYRSAAIRINIKDWKTESLRTAILAEKRR	634
Kle-beta_Cryptosporidium_1	LDDNDEKQKDKVSSAGCRRNKNKEEYVWFMD-----HMKLGKDKP-----LKPGRTYKLSRNYTISLENLSQKEDLFDIDYLSLSYFMGKTLKIEGKLLGSKPLFSDL	406
Kle-beta_Plasm_falc	FFDYDFSLGILKNKKSILNFKFQOKKLPLEENTHMDHT-----HINNNHHLKYDILNRLPNYMLHCHNINKNYQDFFRYMQPNLILEIMKRHILKELYNNTQQRATQKAEYLYNEQTKKNDKRENNNDVQPKYKNTKCYDSPFFNY	453
Kle-beta_Plasm_yoel	LYIILDETHFNHKYNTIYKQANAYCYDYGSIIEFNSNNHICVYCNNN-----RKNGFYKPLGYYNLSNINITEQDFLTYMQPKNIIDILIMQ-----EINDNLDANSTT-----NKLDQNIIDPIF	484
ruler610.....620.....630.....640.....650.....660.....670.....680.....690.....700.....710.....720.....730.....740.....750	
Kle-beta_At	NGDFHDFGEHGDGDAE-----HPFMDVDLNMNDGGAAEFHNYDGFENCEINCOQESLEDLCSRHLDALLAN-----	489
Kle-beta_Hs	-----ADSR-----LRRKGPSFADMEVLYVTHVKEQLETLRKL-----QRRVEAEQWLRFPAEEDHLEDS-----L-----EDLGAADDLFLEF	442
Kle-beta_Mm	-----PDGRR-----ARRKGPSFADMEVLYVTHVKEQLETLRKLRRRKRINERWLPQAKQDLWTFEEDRLEBSL-----EDLGVADDFLEF	391
Kle-beta_Anopheles	-----	
Kle-beta_Dm CG14685-PB	MSRRETILHILPDL-----GFRQRRPTFDSGFDIEEPRVSSCVSTIGEY-KTELEDEIANTNNLTDASASDALNENVDNIESGLGDSLAQELNASTEPNAENNTANS	691
Kle-beta_Ce C29E4.2	RIKEKTAKIREARTQNMQRKTRARVIVE-QFEPVTEIDPTSNRRLLGAEVDDVDEDL-----RIKEKTAKIREARTQNMQRKTRARVIVE-QFEPVTEIDPTSNRRLLGAEVDDVDEDL-----AAEVLMSFGGGFDDE	709
Kle-beta_Cryptosporidium_1	-----KPKLSVERLLFDYDLRLLEPELNKASGSKYKYSKVFESMDKRRRELL-----NSGSGDND	470
Kle-beta_Plasm_falc	MISNNITQFDHLIDDMIYFDEYFKSLILYNNINIDLEKNTNNQNT-----DETNIINNMKDEKQNLIIISNINNSNDQKLFNOCI-KIPELYIQKGLNLSYHLEPLIYNFIKTKLKKKNDFEKFSVILFDEKPIYFEDILRD	595
Kle-beta_Plasm_yoel	-----HENNDSSDKS-----DDQKLPNDPK-----LTDQKLEKQI-KIPPLYIQKGLNLDYVYLEPLLYNLKSLKKEKNVDRFSSINFYDHNENYDTEILKD	573
ruler760.....770.....780.....790.....800.....810.....820.....830.....840.....850.....860.....870.....880.....890.....900	

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Kle-beta_At -----TAKSEKQDLAARVSTWQKIEQNLBEQELHPPFDIQEYGDRIINKL--HVEESG---NVETFT 548
Kle-beta_Hs EEMVEPEGADPREAADLDA-----VPMSLSYEELVRRNVELFIAIS-----QKFVQETELSQIRDWEDTVPPLQEQEHVPPFDIHTYGDQLVSRF---PQLN---EWCPFA 539
Kle-beta_Mm EYVEEPAGVMPEEADLDA-----EAMPESLRYEELVRRNVELFIAISQKF-----IQETELSQIRDWEDTVPPLQEQEHVPPFDIHTYGDQLASRF---PQLN---EWCPFS 490
Kle-beta_Anopheles -----MHEAKRFDFKVSANHRKLPILLISEKRNHFDIHAYGTDLIDTFDPAPLGV---EATILE 58
Kle-beta_Dm_CG14685-PB SLEVTATRESSCTLSGLETVDLGMESALVSSVLDLSTEPSAMDSNIINVTQPDNSDLEISIVQDQTLHDBADANDLSAETPN---PIADSAVDDCSLIRDWHRRLAPALAAHERQNFNIKDLGTEILDIC---KAGN---RTATLA 831
Kle-beta_Ce_C29E4.2 EDVFRPGERPPMAPNNLEFDALITDFDIPPAEYVPLRFEDIDDAELNSVINLPGNLLIDKALPLLKFAENRTRDREOMAYEMAKAYEDVDVAVTLEQEHVDKWHSRMEPILLEGETRKEYDVHAGGRAVIGQY---DIEG---GTRRL 852
Kle-beta_Cryptosporidium_1 QEWSEFNDLGMEIISBYYLEQIQDVLSDPHLPDPTEDHIQDDENLIEGTQEQEQIISDSNLDVIDI---FEQ---NLSLHTRINTWTGYVEPLLQAQNSRPEFNIHEEGKMIIERM---KKFNIMEQPIRFE 596
Kle-beta_Plasm_falc DEYDEQKNEDNKNHIE-----ENINFEINTDKNLLNDEMNDNPIAIFENHLDNTFI-----MNDDQELQDRVSKWNAFLBEKLEILKRQPKVDLDLKKNIINYI---INNG---ENILFT 701
Kle-beta_Plasm_yoel DDYQEIKEQNKTIQETLIMGTFINIKSIDNHVKNLPTSILKKTDSNTSLA-----FSFEDKIQDRVKNWRNFLEKLDILKRQPPYVVEYVKKKILKYM---ISNG---DNIYFP 678
ruler .....910.....920.....930.....940.....950.....960.....970.....980.....990.....1000.....1010.....1020.....1030.....1040.....1050

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Kle-beta_At DLMKDQEKHEVARAFSALLQLVNGDVDLEKPGNSTNEPFCYAVKPFVSRLLKVHNRKNEKRGIHLPQKRAKPIIKGKSHESPPPKRNTCSVSQTRKVKLISKINGVGRCTPNSKKRRKGRSDDVTEVTEVAIEKSLGKL--- 695
Kle-beta_Hs ELVAGQPAFEVCRSMLASLQLANDYTVEI---TQQ---PGLEMAVDTMSLRLL-THQRAHKRFQTY-----AAPSMAQP----- 606
Kle-beta_Mm ELVAGQPAFEVCRSMLASLQLANDYTVEI---TQQ---PGLEAAVDTMSLRLL-THQRAHTRFQTY-----AAPSMAQP----- 557
Kle-beta_Anopheles RVLEHKPPHSARFFLSMLMLANTNNVQI---CNKPPDLRLLSAASEIELRLI-SRKRHRKLEAL-----GELLPPDGDGHELAASDRNRQKRNKRKRKTIVFE 153
Kle-beta_Dm_CG14685-PB DVMADKPPSICRYMLASLVLTNHGNSVSL---DFENRDKSKPIDMSQFRMHLKSMKRMENPEDDVGINAAQEKSTPRSKQLNDSAHKPRISITASAPTKRKSAAENSLESEVFAKTVRLIQPIPKMWPPTPSDADSGISIMGSLASTARL 978
Kle-beta_Ce_C29E4.2 DLVMDRFPWEISRYFLSCLFMCNNGVMV---SEDMELP-LEERINSMKITLLKRDHCEMFKEAGALDA-----KRRKKNKQHLTNGMKDTSKKKQKI 918
Kle-beta_Cryptosporidium_1 EVVNGFSKWQVCRSFLATLMLSNNREIDI---LQENQN-AIEEEDFFSIKLL-DEDEQNQALNTNINNTI-----KVSVVNLDFFPKKKTKKDFEESNELENKLDKGGQRISRKRGNK 706
Kle-beta_Plasm_falc KLIKKNKDFEISRNFLTLLMLINADILNI---KKIKKHK-KSNNISNVEIHKKENLQQLYSISKQVQNKSF-----LIKE-----KRRKKNKQHLTNGMKDTSKKKQKI 797
Kle-beta_Plasm_yoel DLVNDNEKYKIVRNFLTLLMLINTKLDI---TEIQNN--SNNITNKINVKNMVNVEYINFPNSFDNIKF-----LINDKK--RKINQNFNKNDSLYLQKHHI----- 773
ruler .....1060.....1070.....1080.....1090.....1100.....1110.....1120.....1130.....1140.....1150.....1160.....1170.....1180.....1190.....1200

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Kle-beta_At - 695
Kle-beta_Hs - 606
Kle-beta_Mm - 557
Kle-beta_Anopheles - 153
Kle-beta_Dm_CG14685-PB - 978
Kle-beta_Ce_C29E4.2 - 918
Kle-beta_Cryptosporidium_1 - 706
Kle-beta_Plasm_falc - 797
Kle-beta_Plasm_yoel - 773
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