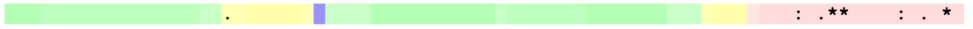
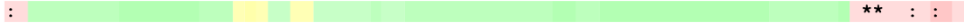



PF3D7 1233700 **PIEIVPKMKKIQ--NVNCTNKDETNINITHN-----N-----NNNDNIFFNKKLFNYGIEYYIDVSDQ**
PKH 145080 -----EVEGSLMHRQNLDPDIEMVPL--SSTQ-----RS-----ATSTEDFPNKHFFNYGLEYYIDVRDE
PmUG01 14067900 -----YTTRN--MTKRSSVEFIPI-ARRV-----D-----KKRCNMVASPKLFNYGLEYYIDVSDQ
PowCR01 1400537 -----AAIPRCKVHLQ--HSNRSMIQMTPR-SGMK-----S-----KEKCNWLRNWKLFNYGIEYYIDVSDM
PocGH01_1405930 -----ANIPRCKVHLQ--HSSRSIIQMTPR-SGMK-----S-----KEKCNWLLNWKLFNYGIEYYIDVSDM
PVX 100640 -----LHADDQPPSIKMIPV--SSRESGRE-----RG-----GPSREAAPNRHLFNYGLEYYIDVSDM
meth -----AAMVRFNLNLIAGEPDIARVPI-MIDSSKWDVIEKGLKCIQGGKIVNSISMKEGVDAFIHAKLLRRYGAADVMAFDE
MTR -----SAMTRFCNLIASEPDIKAVPL-CIDSSNFAVIEAGLKCCQGGKIVNSISLKEGEDDFLEKARKIKKYGAAMVMAFDE

cons 


PF3D7 1233700 **EI-----I-SNCLFKLNT**
PKH 145080 **EI-----I-SNSKFRIDS**
PmUG01 14067900 **EI-----I-ASNCKFKLQC**
PowCR01 1400537 **EV-----I-SNCKLKLEC**
PocGH01_1405930 **EV-----I-SNCKFKLEC**
PVX 100640 **EI-----I-SNCKFKLGA**
meth **QQQADTRARKIEICRRAYKILTEEVGFPPEDIIFDPNIFAVATGIEEHNNYAQDFIGACEDIKRELPHALISGGVSNVSFSFRG**
MTR **EQQATETDTKIRVCTRAYHLLVKKLGFNPNDIIFDPNILTIGTGMEENLYAINFIHATKVIKETLPGARISGGLSNLSFSFRG**

cons 

PF3D7 1233700 **FCKNSDKLH-----**
PKH 145080 **YKRNEHKLQ-----**
PmUG01 14067900 **FCRNTNKLN-----**
PowCR01 1400537 **FTRNREKLH-----**
PocGH01_1405930 **FTRNREKLH-----**
PVX 100640 **YKRNEEKLH-----**
meth **NDPVREAIHAVFLYYAIRNGMDMGIVNAGQLAIYDDLPAELRDAVEDVILNRRDDGTERLLELAEKYRGSKTDDTANAQQAEWR**
MTR **MEAIREAMHGVSFLYHAIKSGMDMGIVNAGNLPVYDDIHKELLQLCEDLIWNKDPATEKLLRYAQT-QG--TGKKVIQTDEWR**

cons 


PF3D7 1233700 -----LFSLTTFSNIRE---VLTFFY
PKH 145080 -----LFSVITSSNVRE---VFTLY
PmUG01 14067900 -----FFSLTTFSNIRE---VLTFFY
PowCR01 1400537 -----FFSLTTSSNVRE---IFTFY
PocGH01_1405930 -----FFSLTTSSNVRE---IFTFY
PVX 100640 -----LFSLLTSSNVRE---VLTLY
meth **SWEVNRKLEYSLVKGITIEEQDTEEAR---QQATRIPIEVIEGPLMDGMNVVGDVLFEGKMLPQVVK SARVMKQAVAYLEPFI**
MTR **NGPVEERLEYALVKGIEKHIIEDETEARLNQKKYPRPLNIIEGPLMNGMKIVGDVLFAGKMLPQVTKSARVMKKA VGHILPFI**

cons 

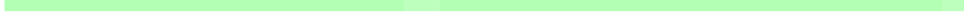
PF3D7 1233700 **NC-----IKYYGSTFNKNVNIINFFCNSCKYVGCSSKYSFFDIVSILLYLDSYNKYIKAIGLNCVNIIEV-YDLFYPFKKY**
PKH 145080 **HH-----LKTGGGFEEKNVVVSFYCNSNKNIGCTDYSFLDMVLTLLYLDNRNHFKAIGVNCVNIIDV-RELILPLTRC**
PmUG01 14067900 **NY-----IKYYASNFKNVNIINFCNSCKYVGCSSKYSFFDIVSILLYLDSYNKFINAIGINCVMNIENV-YDLFFPFKKY**
PowCR01 1400537 **NF-----LKYYGNNFRNSVNIINFCNDIYHIGCSIYSFFDIICILLYLDAHNKYIYAIGLNCVNIIEV-YDIFLFPFKKY**
PocGH01_1405930 **NF-----LKYYGNNFRNSVNIINFCNDIYHIGCSIYSFFDIICILLYLDAHNKYIYAIGLNCVNIIEV-YDIFLFPFKKY**
PVX 100640 **SH-----LVKCGGHFDTNVVVSFYCNDGQHIGCSGSYFVDDVLLILLYLDSNRNRFKAIGLNCVSIIDV-RELFAPLTRC**
meth **EASKE-----QGTNGKMVIATVKGDVHDIG-----KNIVGVVLQCNNYIYDLGVMVPAEKI**
MTR **EKEREETRVLNGTVEEDPYQGTIVLATVKGDVHDIG-----KNIVGVVLGCNNFRVIDLGVMTPCDKI**

cons 

PF3D7 1233700 **ICPYNNINT-----**
PKH 145080 **IKPDGNIDV-----**
PmUG01 14067900 **TCPYININE-----**
PowCR01 1400537 **LCPYKNINV-----**
PocGH01_1405930 **LCPYKNIIV-----**
PVX 100640 **ISSDGTVDV-----**
meth **LRTAKEVNADLIGLSGLITPSLDEMIVNAKEMERQGFITPLLIGGATTSKAHTAVKIEQNYSGPTVYVQNASRTVGVVAALLSD**
MTR **LKAALDHRKADIIGLSGLITPSLDEMIVNAKEMERLAIRIPLLIGGATTSKHTAVKIAIPRY SAPVIHVLDASKSVVVCSQLLDE**

cons 

PF3D7 1233700 -----
PKH 145080 -----
PmUG01 14067900 -----
PowCR01 1400537 -----
PocGH01_1405930 -----
PVX 100640 -----
meth **TQRDDFVARTRKEYETVRIQHGRRKPRTPPVTLAARDNDFAFDQAYTPPVVAH-RLGVQVEEA-SIETLRNYIDWTPPFMTWS**
MTR **NLKDEYFEEIMEEYEDIRQDHYESLKERRYPLPSQARKSGFQMDWLSEPHVVKPTFIGTQVFEDYDLQKLVYIDWKPFDFVWQ**

cons 

PF3D7 1233700 -----
PKH 145080 -----
PmUG01 14067900 -----
PowCR01 1400537 -----
PocGH01_1405930 -----

```

PVX 100640
meth
MTR
-----RILEDEVVGVGVEAQRLEFKDANDMLDKLSAEKTLNPRGVVGLFPANRVGDDIEIYRDET---RTHVINVSHHLRQ
LAGKYP-----RILEDEVVGVGVEAQRLEFKDANDMLDKLSAEKTLNPRGVVGLFPANRVGDDIEIYRDET---RTHVINVSHHLRQ
LRGKYPNRGFPKIFNDKTVGGGEARKVYDDAHNMLNLTLSQKKLRARGVVGFWPAQSIQDDIHLAYAEAAVPAQAEPIATFFYGLRQ

cons
-----

PF3D7 1233700
PKH 145080
PmUG01 14067900
PowCR01 1400537
PocGH01 1405930
PVX 100640
meth
MTR
-----NLYHSQNIQMNIVKDVMDLKKNRYIND-----FNF
-----NAYPCPNGELGRLIKTVLKD LKKNTYLGD-----IHF
-----DSYKSONSQINSIVKTALRSLKKNRYIQD-----VNF
-----NMYRSENQEFDSIMKTVLNDLNKNRYIYD-----VNL
-----NMYRSENQEFDSIMKTVLNDLNKNRYIYD-----VNF
-----DAYGSPSGELSGLTKTILKGLKKNRFLGD-----IHF
QTEKTGFAN---YCLAD FVAPKLSGKADYIGAFAVTGGLEEDALADAFEAQHDDYNKIMVKALADRLAEAFAYLHERVRKYYW
QAEKDSASTEPYCYLSDFIAPLHSGIRDYLG LFAVACF-GVEELSKAYEDDGDYSSIMVKALGDRLAEAFAYLHERVRRELW

cons
-----

PF3D7 1233700
PKH 145080
PmUG01 14067900
PowCR01 1400537
PocGH01 1405930
PVX 100640
meth
MTR
F-----CSPNKSLVVVSFDDQNGDVHF-----
F-----ASPNKSLNRRVTYDHSRNDIQF-----
F-----CSPNKSLQVVSFDNSTNEVTF-----
F-----CSPNKSLQVVSFDNSTNEVTF-----
F-----CSPNKSLQVVSFDNSTNEVTF-----
F-----CSPNKSLQVVSFDNSTNEVTF-----
F-----ASPNKSLNRRVTYDYGQGEVHF-----
GYAPNENLSNEELIRENYQGIRPAGYPACPEHTEKATIWELLEVEKHTGMKLTESFAMWPGASVSGWYFSPHD-SKYVAVAQI
AYCGSEQLDVADLRRLRYKIRPAGYPSQPDHTEKLTMWRLADIEQSTGIRLTESLAMAPASAVSGLYFSNLK-SKYFAVGKI

cons
-----

PF3D7 1233700
PKH 145080
PmUG01 14067900
PowCR01 1400537
PocGH01 1405930
PVX 100640
meth
MTR
-----HNSANKTNHVYNYIEKWINVHVNGFGGCCYYNPYDISLINYKINELL-----
-----DISQKRHKHLYNYVGDWIDVGLTGFGGCCYYNPYDISLLDYKLG RMAQMQ-----
-----HTLPNKTDHVYNYVDKWMVEVINGFGGCCYYNPYDVS LIDYKLGRLCR-----
-----ETTSKKINHVNYLERWIDLGINGFGGCCYYNPYDISLIDYKLS SIFSSGTN-----
-----ETTSKRINHVNYLESWIDLGINGFGGCCYYNPYDISLIDYKLS SIFSSGTN-----
-----ETTQERHKHVCNYVGEWLHVGLSGFGGCCYYNPYDISLLDYKLGQLAGGVAVREKQR
QRDQVEDYARRKGM SVTEVERWLPNL-G-----YDAD
SKDQVEDYALRKNISVAEVEKWLGPIL-G-----YDTD

cons
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Fig. S1.