```
AtIAMT        1  ------------------MGSKGDNVAVCNMKLERLLSMKGGKGQDSYANNSQAQAMHA--------
AnmBAMT       1  ------------------------MKVMKKLLCMNIAGDGETSYANNSGLQKVMM--------
CbSAMT        1  ---------------------MDVRQVLHMKGGAGENSYAMNSFIQRQVISITKP--------
AtJMT         1  ----------------------MEVMRVLHMNKGNGETSYAKNSTAQSNII---------
W1PM29        1  ------------------MAISAFSYIASASYSNRNHKLRCWRSSFSFSPPSRPSSRCH
PitCCoAOMT    1  ------------------MASTSVAAAEVKAQTTQAEEPVKVVRHQEVGHKS--------
ZeCCoAOMT     1  ----------------------MATPTGETQPAKHQEVGHKS--------
PcCCoAOMT     1  -------------------------MASNGESKHSEVGHKS--------
MsCCoAOMT     1  ----------------------MATNEDQKQTESGRHQEVGHKS--------
NtCCoAOMT     1  -------------------------MATNGRHQEVGHKS--------
U5CX90        1  -----------------------MATKQEEQQQVGRHQEVGHKS--------
PotCCoAOMT    1  ----------------------MATNGEEQQSQAGRHQEVGHKS--------
VvCCoAOMT     1  ------------------------MATNQEAGRHQEVGHKS--------
SlCCoAOMT     1  ------------------------MLTKTMGNFFTEVKDTG--------
McCCoAOMT     1  -------------------------MDFAVMKQVKNTG----------
U5CZ55        1  -----------------------------MWSQLRVPSYG--------
U5D229        1  ----------------------MPILPTQSLFMNSFMGYMST--------
U5D520        1  -------------------------------------------------------
U5CZN4        1  -------------------------------------------------------
U5D0E8        1  -------------------------------------------------------
CjCoOMT       1  -------------------MDTPNTFQNDDEIKAQAQVWKHMFGFAET--------
W1P9N8        1  -------------------MEQHSLAMEEQAQIWKYVFGFVDS--------
Hv7OMT        1  MQDTSSTQHKSLPNNIIEMDMVTSMPLEANSNGQILQAEAELFCHSFGYLKS--------
W1P041        1  -----------------MEGVSNNGSNGASHTTWAMMELTNSIAVS--------
Cr4    OMT    1  ------------------MDLQTA-EFREAQAKIWSQAFSFANC--------
CrOMT2        1  ----------------------MELQSSEIRNAQAHFFTQVFSFTSM--------
ObCVOMT       1  ---------------------MALQNMDISLSTEQLLQAQAHVWNHMYAFANS--------
ObEOMT        1  ---------------------MALQKVDISLSTEQLLQAQVHVWNHMYAFANS--------
Mp8OMT        1  ---------------------MALPNGISSKQELLEAQAHVWNHIYSYINS--------
RhOOMT1       1  ----------MERLNSFRHLNQKWSNGEHSN-ELLHAQAHIWNHIFSFINS--------
RhOOMT2       1  ---------MERLNSFKHLNQKWSNGEHSNELLHAQAHIWNHIFSFINS--------
PsHMM         1  ---------------------MDFSTNGSEESELYHAQIHLYKHVYNFVSS--------
GeHI4    OMT  1  ---------------------MAFSTNGSEEIELYHAQIHLYKHVYNFVSS--------
LjHI4    OMT  1  ---------------------MDFSSSNGSEDTELSQAQIHLYKHVYNFVSS--------
MsI7OMT       1  ---------------------MASSINGRKPSEIFKAQALLYKHIYAFIDS--------
GeD7OMT       1  ---------------------MASSINGRKPSEIFQGQALLYRHIYAFIDS--------
Mp4    OMT    1  ------------------------MVADEEVRVRAEAWNNAFGYIKP--------
Mp7OMTa       1  ------------------------MAPEEDSLALAEAWNHGFGFIKT--------
Mp7OMTb       1  ------------------------MAPKEDSLALAEAWNHGFGFIKT--------
AmmCOMT       1  -----------------------MASHDQEAFLAAMQIVNSSTVD--------
Cj9OMT        1  MCTSLSELKCPVFSTKRKLLLEFALRTSVDMAAQEGVNYLSGLGLSRLICLP--------
Ms2    OMT    1  --------------MGNSYITKEDNQISATSEQTEDSACLSAMVLTTNLVYP--------
Cj6OMT        1  -----------------------MEVKKDNLSSQAKLWNFIYGFAES--------
Cj4    OMT    1  -----------------------MAFHGKDDVLDIKAQAHVWKIIYGFADS--------
U5DBV9        1  -----------------------MAFKETQHQQQGKEEVEAQAVIWEHMFGMAKT--------
Mp3    OMT    1  --------------MEASFENGRKRSSSSSSEEESAFSFAMELAAGSVLP--------
RcPOMT        1  ------------MRSTSPQTIDSTPMSHPQQEEEEELGKQAIRLANVVILP--------
ZmCOMT        1  ------------MGSTAGDVA--------AVVDEEACMYAMQLASSSILP--------
TaOMT2        1  ----------------MGSIA--------AGADEACMYALQLVSSILP--------
AmmBMT        1  ----------------------MAEMKTSPSQDEEAGVVAMQLATSTVLP--------
ZeCOMT        1  --------------MGSNQ----------DDQAFLFAMQLASASVLP--------
W1NLC7        1  --------------MGSVG-------PEPLTEEDCCHYAMQLASSSILP--------
CbIEMT        1  --------------MGSTGNAEIQIIPTHSSDEEANLFAMQLASAAVLP--------
At3    OMT    1  --------------MGSTA--ETQLTPVQVTDDEAALFAMQLASASVLP--------
MsCOMT        1  --------------MGSTG--ETQITPTHISDEEANLFAMQLASASVLP--------
Ca3  5    OMT 1  --------------------------------MLFAMQLASASVLP--------
CaOMT2        1  --------------------------------MLFAMQLACASVLP--------
W1PG58        1  -------------------------------------------------------
PitAEOMT      1  -------MDSNMNGLAKSNGCEISRDGFFESEEEELQGQAEAWKCTFAFAES--------
W1P0L5        1  --------------------------MGDEVQAQAQAQAEAWRLSLAFADS--------
W1P0K5        1  -------------------------------------------------------
W1P6Z4        1  -------------------------------------------------------
U5D1A9        1  -------------------------------------------------------
U5CUU9        1  -------------------------------------------------------
U5CZT3        1  -------------------------------------------------------
W1P8Q1        1  -----------------------MEMQDEDARGQAEFWQLTLAFADS--------
W1P633        1  ----------------MRLRNVQGLKMEMQDEDALGQAEFWQITLAFVDS--------
W1P8Q7        1  ----------------MRLRNVQGLKMEMQDEDALGQAEFWQITLAFVDS--------
W1NGT5        1  ------------------MELQDEDAEGQAEFWQLALAFVDS--------
W1NP75        1  -------------------------------------------------------
W1P628        1  -------------------------------------------------------
U5CKV5        1  -------------------------------------------------------
```

```
AtIAMT        42  --------------------------------------------------------------R
AnmBAMT       32  --------------------------------------------------------------S
CbSAMT        35  --------------------------------------------------------------I
AtJMT         30  --------------------------------------------------------------S
W1PM29        42  GKIRAHKHGKVSSRSNGVTVLSSAFFRGKIRIRGYCMLSTSPNGVAVISSNENYGNKEVI
PitCCoAOMT    35  --------------------------------------------------------------L
ZeCCoAOMT     21  --------------------------------------------------------------L
PcCCoAOMT     17  --------------------------------------------------------------L
MsCCoAOMT     23  --------------------------------------------------------------L
NtCCoAOMT     15  --------------------------------------------------------------L
U5CX90        22  --------------------------------------------------------------L
PotCCoAOMT    23  --------------------------------------------------------------L
VvCCoAOMT     18  --------------------------------------------------------------L
SlCCoAOMT     18  --------------------------------------------------------------L
McCCoAOMT     14  --------------------------------------------------------------L
U5CZ55        12  --------------------------------------------------------------S
U5D229        21  ---------------------------------------------------------------
U5D520         1  ---------------------------------------------------------------
U5CZN4         1  ---------------------------------------------------------------
U5D0E8         1  ---------------------------------------------------------------
CjCoOMT       30  --------------------------------------------------------------I
W1P9N8        25  --------------------------------------------------------------A
Hv7OMT        53  --------------------------------------------------------------M
W1P041        30  --------------------------------------------------------------M
Cr4    OMT    26  --------------------------------------------------------------A
CrOMT2        26  --------------------------------------------------------------S
ObCVOMT       33  --------------------------------------------------------------M
ObEOMT        33  --------------------------------------------------------------M
Mp8OMT        31  --------------------------------------------------------------M
RhOOMT1       41  --------------------------------------------------------------M
RhOOMT2       41  --------------------------------------------------------------M
PsHMM         31  --------------------------------------------------------------M
GeHI4    OMT  31  --------------------------------------------------------------M
LjHI4    OMT  32  --------------------------------------------------------------M
MsI7OMT       31  --------------------------------------------------------------M
GeD7OMT       31  --------------------------------------------------------------M
Mp4    OMT    24  --------------------------------------------------------------T
Mp7OMTa       24  --------------------------------------------------------------S
Mp7OMTb       24  --------------------------------------------------------------S
AmmCOMT       23  --------------------------------------------------------------G
Cj9OMT        53  --------------------------------------------------------------M
Ms2    OMT    39  --------------------------------------------------------------A
Cj6OMT        25  --------------------------------------------------------------L
Cj4    OMT    29  --------------------------------------------------------------L
U5DBV9        33  --------------------------------------------------------------M
Mp3    OMT    37  --------------------------------------------------------------M
RcPOMT        40  --------------------------------------------------------------M
ZmCOMT        31  --------------------------------------------------------------M
TaOMT2        27  --------------------------------------------------------------M
AmmBMT        29  --------------------------------------------------------------M
ZeCOMT        24  --------------------------------------------------------------M
W1NLC7        29  --------------------------------------------------------------M
CbIEMT        36  --------------------------------------------------------------M
At3    OMT    34  --------------------------------------------------------------M
MsCOMT        34  --------------------------------------------------------------M
Ca3  5   OMT  15  --------------------------------------------------------------M
CaOMT2        15  --------------------------------------------------------------M
W1PG58         1  ---------------------------------------------------------------
PitAEOMT      46  --------------------------------------------------------------L
W1P0L5        26  --------------------------------------------------------------L
W1P0K5         1  ---------------------------------------------------------------
W1P6Z4         1  ---------------------------------------------------------------
U5D1A9         1  ---------------------------------------------------------------
U5CUU9         1  ---------------------------------------------------------------
U5CZT3         1  ---------------------------------------------------------------
W1P8Q1        25  --------------------------------------------------------------L
W1P633        35  --------------------------------------------------------------L
W1P8Q7        35  --------------------------------------------------------------L
W1NGT5        25  --------------------------------------------------------------L
W1NP75         1  ---------------------------------------------------------------
W1P628         1  ---------------------------------------------------------------
U5CKV5         1  ---------------------------------------------------------------
U5CKV5         1  ---------------------------------------------------------------
```

```
AtIAMT        43   SMLHLLEETLENVHLNSSASPP-PFTAVDLGCSSG------ANTVHIIDFIVKHISKRF
AnmBAMT       33   KSLHVLDETLKDIIGDHVGFPK-CFKMMDMGCSSGPNALLVMSGIINTIEDLYTEKNIN-
CbSAMT        36   TEAAITALYSGDTVTT------RLAIADLGCSSGPNALFAVTELIKTVEELRKKMGRE-
AtJMT         31   LGRRVMDEALKKLMMSNSEIS--SIGIADLGCSSGPNSLLSISNIVDTIHNLCPDLDR--
W1PM29       102   SVTPQLYEYILANVREPEI----LRELREETAGMQGSQMQVSPDQAQLLAMLVQILGAQ-
PitCCoAOMT    36   LQSDALYQYILETSVYPREPEP-MKELPRVTAKHPWNLMTTSADEGQFLGLLLKLINAK-
ZeCCoAOMT     22   LQSDALYQYILETSVYPREPQP-MKELRRITAKHPWNLMTTSADEGQFLNLLLKLINAK-
PcCCoAOMT     18   LQSDALYQYILETSVYPREPEA-MKELREVTAKHPWNLMTTSADEGQFLNMLLKLINAK-
MsCCoAOMT     24   LQSDALYQYILETSVFPREHEA-MKELREVTAKHPWNIMTTSADEGQFLSMLLKLINAK-
NtCCoAOMT     16   LQSDALYQYILETSVYPREPEK-MKELREITAKHPWNLMTTSADEGQFLSMLIKLINAK-
U5CX90        23   LQSDELYQYILETSVYPREPES-MKELREITAKHPWNIMTTSADEGQFLNLLLKLINAK-
PotCCoAOMT    24   LQSDALYQYILETSVYPREPEC-MKELREVTAKHPWNIMTTSADEGQFLNMLLKLVNAK-
VvCCoAOMT     19   LQSDALYQYILETSVYPREPES-MKELRELTAQHPWNIMTTSADEGQFLNMLLKLINAK-
SlCCoAOMT     19   LQSEQLHQYILDTSVFPRESEH-LKELRKATESHPMSFMGTSPLAGQLLSFMLKTVKPK-
McCCoAOMT     15   LQSEELCQYILRTSVYPREAGF-LKELREANESHPDSYMSTSPLAGQLMSFVLKLVNAK-
U5CZ55        13   GLTSV---------YPREAEG-LKDLRDATEAHPWAIIATSPDGGQFISLLLKLINAK-
U5D229        21   -----------------------------------------APDGGQFFSLLLKLINAR-
U5D520         1   ------------------------------------------------------------
U5CZN4         1   -----MSRGVMGV-----------------------------PPDEGQFIQMILKLVNAK-
U5D0E8         1   ------------------------------------------------------------
CjCoOMT       31   MLRSTVSLGIPDIIHNNG-----PVTLSQLVTHLPL-----KSTSIDRFHHFMRYLVHM-
W1P9N8        26   VAKCAIELGLVDILESHGS----PMTLSQLCASLHH-----PPKEPATLNRIMRFLAHK-
Hv7OMT        54   ALQSVVKLRIPDVLHRYGG----AASLPELLSTVPI-----HPNKLPYLPRLMKMLAAA-
W1P041        31   SLRAMAKLDVPKIIWQNGENT--PLTALEIATKLG------SEAGSSNLERMLRLLTAH-
Cr4   OMT     27   ALKCAVKLGIADAIDNH--DKK-ALTLSELTEELSI-----KPSKSPFLQRLMRQLVNA-
CrOMT2        27   SLKCAVQLGIPDAIHSHGK----PMALSDLTNSLPI-----NPSKAPYIYRLMRILVAA-
ObCVOMT       34   SLKCAIQLGIPDILHKHDH----PMTLSQLLKAIPI-----NKEKSQSFQRLMRALVNS-
ObEOMT        34   SLKCAIQLGIPDILHKHGR----PMTLSQLLQSIPI-----NKEKTQCFQRLMRALVNS-
Mp8OMT        32   SLKCAIQLGIPDAIHKHGN----PITLSQLADALNI-----NKAKSHGLFRLMRILVHS-
RhOOMT1       42   SLKSAIQLGIPDIINKHGY----PMTLSELTSALPI-----HPTKSHSVYRLMRILVHS-
RhOOMT2       42   SLKSAIQLGIPDIINKHG-----PMTLSELTSALPI-----HPTKSHSVYRLMRILVHS-
PsHMM         32   ALKSAMELGIADAIHNHGK----PMTLPELSSSLKL-----HPSKVNILYRFLRLLTHN-
GeHI4    OMT  32   ALKSAMELGIADVIHNHGK----PITLPELASALKL-----HPSKVGILYRFLRLLTHN-
LjHI4    OMT  33   ALKSAMELGIADVIHSHGK----PITLPELATALNL-----RPSKIGVLHRFLRLLTHN-
MsI7OMT       32   SLKWAVEMNIPNIIQNHGK----PISLSNLVSILQV-----PSSKIGNVRRLMRYLAHN-
GeD7OMT       32   CLKWIVELDIPNIIHNHGK----PITVSELVSILKV-----PQTKAGNVQRIMRYMAHN-
Mp4    OMT    25   AVATAVELGLPDILENHDG----PMSLLELSAA--------TDCPAEPLHRLMRFLVFH-
Mp7OMTa       25   IVKTAVELEIPDILESRGA----PVSIPELATA--------VDCSADRIYRVMRFLAYH-
Mp7OMTb       25   IVKTAVELGIPDILESRGA----PVSIPELAAA--------VDCSADRLYRVMRFLAYH-
AmmCOMT       24   VLNALIELNVFDIIMKKVGLDG-YLHPDEIALNLP-AKN--LEASD-MLDRMLRLLATH-
Cj9OMT        54   ALRAAIELNVFEIISQA-GPDA-QLSPSDIVAKIP-TKN--PSAAI-SLDRILRMLGAS-
Ms2    OMT    40   VLNAAIDLNLFEIIAKATPPGA-FMSPSEIASKLP-ASTQHSDLPN-RLDRMLRLLASY-
Cj6OMT        26   VLKCAVQLDLANIIHNSGT----SMTLSELSSRLPS-----QPVNEDALYRVMRYLVHM-
Cj4   OMT     30   VLRCAVELGIVDIIDNNQ----PMALADLASKLPV-----SDVNCDNLYRILRYLVKM-
U5DBV9        34   ALNCAVRLGLADIIHAHGR----PITLFHLASLLPI-----QPVNPDRLHRLMRFLVHT-
Mp3   OMT     38   VIKSAIDLNLLELIKRGGEEGA---SAYELAAQIN-AEN--PKAAAEMIDRILQLLAAH-
RcPOMT        41   VLKSALELNVIDIIWGA-GDGE-SLSPSDIAAQLP-TKN--SNAPA-VLDRMLRLLASH-
ZmCOMT        32   TLKNAIELGLLEVLQKEAGGGKAALAPEEVVARMPAAPSDPAAAAA-MVDRMLRLLASY-
TaOMT2        28   TLKNAIELGLLETLM--AAGGK-FLTPAEVAAKLPSAAN--PEAPD-MVDRMLRLLASY-
AmmBMT        30   ILKSAIELDLLNTIAKA-GPGN-YLSPSDLASKLL-LSN--PDAPV-MLARILRVLLATY-
ZeCOMT        25   VLKTAIELDLLETIAKA-GPHG-SVSSELVAQLPKVNN--PEAPV-MIDRICSLLASY-
W1NLC7        30   TLKAAIELDVLEIIAAA-GPGA-LLSPKDVADKLP-TTN--PEAAT-MLDRMLRLLASY-
CbIEMT        37   ALKAAIELDVLEIMAKSVPPSG-YISPAEIAAQLP-TTN--PEAPV-MLDRVLRLLASY-
At3   OMT     35   ALKSALELDLLEIM--A-KNGS-PMSPTEIASKLP-TKN--PEAPV-MLDRILRLLTSY-
MsCOMT        35   ILKSALELDLLEIIAKA-GPGA-QISPIEIASQLP-TTN--PDAPV-MLDRMLRLLACY-
Ca3  5  OMT   16   VLKSAIELDLLEII--A-SQDT-CMSPTEIASHLP-TTN--PHAPT-MIDRILRLLSSY-
CaOMT2        16   VLKSAIELDLLEII--R-GQDT-CMSPTEIASHLP-TTN--PDAPA-MVDRILRLLSCY-
W1PG58         1   ------------------------------------------------------------
PitAEOMT      47   AVKCVVLLGIPDMIARE-GPRA-TLSLCEIVANLP-TES--PDAAC--LFRIMRFLVAK-
W1P0L5        27   AVKSAIELGIPDLLQES-D--T-PLSLPEIAMSLP-STS--PDTTT--LSRIMRFLVRK-
W1P0K5         1   ------------------------------------------------------------
W1P6Z4         1   ------------------------------------------------------------
U5D1A9         1   ------------------------------------------------------------
U5CUU9         1   ------------------------------------------------------------
U5CZT3         1   ------------------------------------------------------------
W1P8Q1        26   TLKCAVELGIPQLIHAKGQ----PLTLSEIITSLQA-----PSPDSWCLSRVMRFLVKK-
W1P633        36   TFKCAVELGIPQIIHAKGQ----PLTLLEIITSLQA-----PSPDSSCLSRVMRFLVKK-
W1P8Q7        36   TLKCAVELGIPQIIHAKGQ----PLTLSEIITSLQA-----PSPDSSCLSRVMRFLVKK-
W1NGT5        26   ALKCEVELGIARIIQEKGG----LVSLSEIVSSLQ-------APSSDTSRLMRFLVKK-
W1NP75         1   ------------------------------------------------------------
W1P628         1   ------------------------------------------MLFLVRK-
U5CKV5         1   ------------------------------------------------------------
U5CKV5         1   ------------------------------------------------------------
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AtIAMT       95  DAAGIDPPEFTAFFSDLP---SNDFNTLFQLLPPLVSNTCMEECLAADGN----------
AnmBAMT      91  -----ELPEFEVFLNDLP---DNDFNNLFKLLS-----------HENGN----------
CbSAMT       88  -----NSPEYQIFLNDLP---GNDFNAIFRSLP-------------IENDV--DGV----------
AtJMT        87  -----PVPELRVSLNDLP---SNDFNYICASLP-------------EFYDRVNNNKEGLGFGRGGG
W1PM29      157  -----RCI------------EIGVYTGYSSLA-------------IALVLPESGR----------
PitCCoAOMT   94  -----NTM------------EIGVYTGYSLLS-------------TALALPDDGK----------
ZeCCOAOMT    80  -----NTM------------EIGVYTGYSLLS-------------TALALPEDGK----------
PcCCoAOMT    76  -----NTM------------EIGVYTGYSLLA-------------TALALPDDGK----------
MsCCoAOMT    82  -----NTM------------EIGVYTGYSLLA-------------TALAIPEDGK----------
NtCCoAOMT    74  -----NTM------------EIGVFTGYSLLA-------------TAMALPDDGK----------
U5CX90       81  -----NTM------------EIGVYTGYSLLA-------------TALALPDDGK----------
PotCCoAOMT   82  -----NTM------------EIGVYTGYSLLA-------------TALAIPEDGK----------
VvCCoAOMT    77  -----NTM------------EIGVYTGYSLLA-------------TALALPDDGK----------
SlCCoAOMT    77  -----KTI------------EVGVFTGYSLLA-------------TALSIPDDGK----------
McCCoAOMT    73  -----KTI------------EVGVFTGYSLLL-------------TALSIPDDGK----------
U5CZ55       61  -----KTI------------EIGVFTGYSLLA-------------TALSLPDDGK----------
U5D229       39  -----KTL------------EIGVFTGYSLLT-------------TALSLPHDAH----------
U5D520        1  ------------------------------------------------------------
U5CZN4       27  -----KTI------------EVGVFTGYSLLE-------------TALALPEDGQ----------
U5D0E8        1  ------------------------------------------------------------
CjCoOMT      80  -----QLFTISTD-------QITKEDKYELTP-------ASKLLVHGHQ---KSLAPY
W1P9N8       76  ------------------------------------------------------------
Hv7OMT      104  -----GIFTAEDVPATVG---DGEPTTLYHLNA-------VSRLLVDDASVNGGASMSPC
W1P041       82  -----GVFNETML-------GPSEGRRFSLTG-------LGREIVDRSM-------GAF
Cr4   OMT    78  -----GFFTEAKQLRDDNK-DGRTTTAYALTP-------VSRLLLKNEQ----WNLRGI
CrOMT2       77  -----GYF-----------SEEEKNVYSLTP-------FTRLLLKNDP----LNSISM
ObCVOMT      84  -----NFFIEEN--------SNNQEVCYWLTP-------ASRLLLKGAP----LTVAPL
ObEOMT       84  -----NFFIEENN-------SNNQEVCYWLTP-------ASCLLLKEAP----LTVTPL
Mp8OMT       82  -----GFFDKVKVKVKVEGEDEEEEEDAYSLTP-------ASRLLRSEP----LSVAPF
RhOOMT1      92  -----GFFAKKKL-------SKTDEEGYTLTD-------ASQLLLKDHP----LSLTPY
RhOOMT2      91  -----GFFAKKKL-------SKTDEEGYTLTD-------ASQLLLKDHP----LSLTPF
PsHMM        82  -----GFFAKTTVKSN----EGEEETAYVLTP-------SSKLLVSGKS----TCLSSL
GeHI4    OMT  82  -----GFFAKTTVPSQNGKDGEEEETAYALTP-------PSKLLVKGKP----TCLASI
LjHI4    OMT  83  -----GFFAKTTVSRGE----GAEEETAYGLTP-------PSKLLVKSNS----TCLAPI
MsI7OMT      82  -----GFFEI---------ITKEEESYALTV-------ASELLVRGSD----LCLAPM
GeD7OMT      82  -----GFFERVRIQE------EQEENEAYALTA-------ASELLVKGSE----LCLAPM
Mp4   OMT    72  -----GIFKKTAKPP------LSNEAVYYARTA-------LSRLFTRDEL-------GDF
Mp7OMTa      72  -----GIFKRTKPPPES----TEGGSVYYAQTP-------VSRRLTRENL---------G
Mp7OMTb      72  -----GIFKRTEPPPES----TGGGSVYYAQTL-------VSRRLTRENL---------G
AmmCOMT      78  -----SIIKCKLVKRSGG---THRLTRSYGLTS-------ISQYFVQAKD-G--PCLAPY
Cj9OMT      107  -----SIL-----SVS-----TTKSGRVYGLNE-------ESRCLVASED-K--VSVVPM
Ms2   OMT    96  -----SVLTSTTRTIE-----DGGAERVYGLSM-------VGKYLVPDES-R--GYLASF
Cj6OMT       76  -----KLFTKA---------SIDGELRYGLAP-------PAKYLVKGWD---KCMVGS
Cj4   OMT    80  -----EILRVEK--------SDDGQKKYALEP-------IATLLSRNAK---RSMVPM
U5DBV9       84  -----HLFAKTTG-------LNGDEETYWLTP-------SSQLLLRHAE---KSMSGF
Mp3   OMT    91  -----SVLTCRVETPP-----SRR--RRYSLAA-------VCKFLTRDED-G--ASLAPL
RcPOMT       94  -----SILKCSARTGS-----DGQVERLYSAGP-------ICKFLVKDQN-GGTRSVGPL
ZmCOMT       90  -----DVVRCQMED-R-----DGRYERRYSAAP-------VCKWLTPNED-G--VSMAAL
TaOMT2       81  -----NVVSCRTEDGK-----DGRLSRRYGAAP-------VCKYLTPNED-G--VSMSAL
AmmBMT       83  -----KVLGC-----K-----RGEVEWLYCWTP-------VCKYLSNNED-G--ASIAPI
ZeCOMT       79  -----SVLTCTLKETA-----DGCAERFYGLAP-------VCKFLIKNDA-G--VSLAPL
W1NLC7       83  -----SVLTSSVSLTP-----DGHPERLYGAAP-------VTKFLVKNQD-G--VSMAPL
CbIEMT       91  -----SVVTYTLRELP-----SGKVERLYGLAP-------VCKFLTKNED-G--VSLAPF
At3   OMT    86  -----SVLTCSNRKLS-----GDGVERIYGLGP-------VCKYLTKNED-G--VSIAAL
MsCOMT       88  -----IILTCSVRTQQ-----DGKVQRLYGLAT-------VAKYLVKNED-G--VSISAL
Ca3   5   OMT  67  -----SIVTCSVRSVD-----D---QRVYSPAP-------VCKYLTKNQD-G--VSIAAL
CaOMT2       67  -----SVVTCSVRSVD-----D---QRVYGLAP-------VCKYLTKNQD-G--VSIAAL
W1PG58        1  ------------------------------------------------------------
PitAEOMT     99  -----GIFPASKSA-R-----RRAFETRYGLTP-------ASKWLVK-GR-E--LSMAPM
W1P0L5       77  -----HVF----TS-Q-----EIEDETRYGPTR-------TSGWLTKQVH-R--PSLAPF
W1P0K5        1  ------------------------------------------------------------
W1P6Z4        1  ------------------------------------------------------------
U5D1A9        1  ------------------------------------------------------------
U5CUU9        1  ------------------------------------------------------------
U5CZT3        1  ------------------------------------------------------------
W1P8Q1       76  -----RVFSEE---------VKEGEAYYGLTR-------ASKWLVRPGT----SGLAPM
W1P633       86  -----QVFSEE---------VKEGEAYYRLTR-------ASKWLVRLGA----SGLAPM
W1P8Q7       86  -----QVFSEE---------VKVGEAYYRLTR-------ASKLLVRPGA----SGLAPM
W1NGT5       73  -----RVFSVE---------LKQGEAYYGLTR-------LSNWLVRPGE----SGLAPM
W1NP75        1  ------------------------------------------------------------
W1P628        8  -----RVFSVE---------VRQGEAYYGLTR-------MSKWLVGAKE----SGFAPM
U5CKV5        1  ------------------------------------------------------------
U5CKV5        1  ------------------------------------------------------------
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AtIAMT         142  RSYFVAGVPGSFYRRLFPAR----------TIDFFHSA-FSLHWLSQVP-----ESVTDRRS
AnmBAMT        121  --CFVYGLPGSFYGRLLPKK-------SLHFAYSS-YSIHWLSQVP-----EGLE----
CbSAMT         121  --CFINGVPGSFYGRLFPRN-------TLHFIHSS-YSLMWLSQVP-----IGIE----
AtJMT          132  ESCFVSAVPGSFYGRLFPRR-------SLHFVHSS-SSLHWLSQVPCREAEKEDRTITA
W1PM29         182  --LVACDRDAKCLEV------------AKRYYKRA-GVSHKVEVK------HALA----
PitCCoAOMT     119  --ILAMDINRENYDI------------GLPIIEKA-GVAHKIDFR-----EGPA---L
ZeCCoAOMT      105  --ILALDINRENYEI------------GLPIIQKA-GVAHKIDFR-----EGPA---L
PcCCoAOMT      101  --ILAMDINRENYEI------------GLPIIEKA-GVGHKIDFR-----EGPA---L
MsCCoAOMT      107  --ILAMDINKENYEL------------GLPVIKKA-GVDHKIDFR-----EGPA---L
NtCCoAOMT       99  --ILAMDINRENYEI------------GLPVIEKA-GLAHKIEFK-----EGPA---L
U5CX90         106  --IIAMDINKENYEL------------GLPVIEKA-GVAHKIDFR-----EGPA---L
PotCCoAOMT     107  --ILAMDINRENYEL------------GLPVIQKA-GVAHKIDFK-----EGPA---L
VvCCoAOMT      102  --ILAMDINKENYEL------------GLPVIQKA-GVAHKIDFK-----EGPA---L
SlCCoAOMT      102  --ITAVDIDREAYNV------------GLALIKKA-GVESKISFI------VSDA---M
McCCoAOMT       98  --ITAIDFDREAYEI------------GLPFIRKA-GVEHKINFI------ESDA---M
U5CZ55          86  --VVAIDIDKAVYDEY------------GLPIIKKV-GVAHKISFI------HSPA---M
U5D229          64  --ITAIDVDKDVYQEY------------ALPFIQKA-GVEHKINFI------HSPA---L
U5D520           1  --ITAIDVDKKAYEEI-----------GLPIIRRA-GVEHKINFV------QSPA---L
U5CZN4          52  --VTAIDVDNKAYEEV-----------GLPIIQKA-GVEHKINFI------HSPG---I
U5D0E8           1  ------------------------------------------------------------
CjCoOMT        116  VMLQTHPEEFSVWSHVINVLDG------KKPYWESN-DTSMYEKTE------GDPE----
W1P9N8          76  ---------------------------GL-------------------------------
Hv7OMT         149  VLLGTVPLFLGASLKLHEWLQSEEQATTETPFMLAH-GGTLYGIGG------RDSE----
W1P041         115  ILYRLDDALLDAWRLLHEAVLEPS----SEPFIKAH-GKPAYHYHA------DDPV----
Cr4    OMT     120  VLTMLDPAELKAWSVLNDWFK-NDD---PTAFQTAH-EKNYWDYTA------ENTQ----
CrOMT2         108  VLGVNQIAELKAWNAMSEWFQNED----LTAFETAH-GKNFWDFGA------EDK-----
ObCVOMT        119  VQVVLDPTFTNPWHYMSEWFKHENH---ATQFEAAN-GCTFWEKLA------NKPS----
ObEOMT         120  VQVVLDPTFTNPWHHMSEWFT-HEK-H-ATQFEAAN-GCTFWEKLA------NEPS----
Mp8OMT         126  ALAMSDPVYTETWHHLSEWFR-NDA---VAAFDTKY-GMTFPEYAV------ADDR----
RhOOMT1        128  LTAMLDPVLTNPWNYLSTWFQ-NDD---PTPFDTAH-GMTFWDYGN------HQPS----
RhOOMT2        127  LTAMLDPVLTTPWNYLSTWFQNED----PTPFDTAH-GMTFWDYGN------HQPS----
PsHMM          121  VKGALHPSSLDMWGVSKKWFHEDKE---QTLFECAT-GENYWDFLN------KD------
GeHI4    OMT   126  VRGALHPSSLDMWRSSEKWFKEDK----ELTLFESATGESFWDFLN------KDSE----
LjHI4    OMT   123  VKGALHPSSLDMWRSSKKWFL-EDN-EELTLFESAT-GESFWEFLN------KETE----
MsI7OMT        115  VECVLDPTLSGSYHELKKWIYEEDLTLFGVTL-----GSGFWDFLD------KNPE----
GeD7OMT        120  VECVLDPTLSGSYHQLKKWIY-EED---LTLFGVSL-GSHFWEFLN------ENPE----
Mp4    OMT     107  MLLQTGPLSQHPAGLTASSLRTG-----KPQFIRSVNCEDSWTDPV------NGYH----
Mp7OMTa        107  PFVLLQGTMREPSGCVTAE--------TLRTSKRP-GVVNENESDHLY---EDPV----
Mp7OMTb        107  PFVLLQGTMREPSGCVTAE--------TLRMSKRP-GLVDDNDSDRLY---EDPV----
AmmCOMT        120  IRLIHHKEMQRSWSKVKDATI--EG---GVPFNKAHG-CKNIFEYLE------KDKD----
Cj9OMT         142  LLFTSDKAVVESFYNIKDVVL-EEG---VIPFDRTH-GMDFFQYAG------KEER----
Ms2    OMT     136  TTFLCYPALLQVWMNFKEAVV-DED---IDLFKNVH-GVTKYEFMG------KDKK----
Cj6OMT         110  ILAITDKDFMAPWHYLKDGLSGES----GTAFEKAL-GTNIWGYMA------EHPE----
Cj4    OMT     115  ILGMTQKDFMTPWHSMKDGLSDN-----GTAFEKAM-GMTIWEYLE------GHPD----
U5DBV9         120  --ARVHEMTVSPWLSLGPCLEEGV----ASAFEKTY-GMSRWEYSA------SHPD----
Mp3    OMT     129  SLLVQDRVFMEPWYHLKDVIV-EG----GVAFERAY-GVHAFEYHA------KDPK----
RcPOMT         136  FLLHHDKVFMEGWFHLNDAIL-EG----GIPFNRAY-GMTAFEYPE------TDER----
ZmCOMT         129  ALMNQDKVLMESWYYLKDAVL-DG----GIPFNKAY-GMTAFEYHG------TDAR----
TaOMT2         121  ALMNQDKVLMESWYYLKDAVL-DG----GIPFNKAY-GMSAFEYHG------TDPR----
AmmBMT         118  LLVHQDKVTIKSWYHLTDAVR-DG----GTAFNKAH-DMSIFEYAS------QDPQ----
ZeCOMT         119  LLMNQDKVLMESWYYLKDPVL-DG----GIPFNKAY-GMSAFEYHG------KDQR----
W1NLC7         123  VLMNQDKVLMESWYHLKDAVL-EG----GVPFNRAY-GMTAFEYHG------KDPR----
CbIEMT         131  LLTATDKVLLEPWFYLKDAIL-EG----GIPFNKAY-GMNEFDYHG------TDHR----
At3    OMT     126  CLMNQDKVLMESWYHLKDAIL-DG----GIPFNKAY-GMSAFEYHG------TDPR----
MsCOMT         128  NLMNQDKVLMESWYHLKDAVL-DG----GIPFNKAY-GMTAFEYHG------TDPR----
Ca3  5  OMT    104  CVAAQDKVLMECWYHMKDAVL-DG----GIPFNKAY-GMPIFDYFA------KDLG----
CaOMT2         104  CLMNQDKVLMESWYHLKDAVL-DG----GIPFNKAY-GMSSFEYHG------TDPR----
W1PG58           1  ----------MW--------------SPRVYSDN-GTDVWEYSA-------------
PitAEOMT       137  LLMQNDETTLAPWHHFNECVL-EG----GVAFQKAN-GAEIWSYAS------DHPD----
W1P0L5         112  LLLETGVVSLKPWHYLSRCVL-EG----GEAFEKAH-GVEIWGYGA------KNRE----
W1P0K5           1  ------------------------------------------------------------
W1P6Z4           1  ------------------------------------------------------------
U5D1A9           1  ------------------------------------------------------------
U5CUU9           1  ------------------------------------------------------------
U5CZT3           1  ------------------------------------------------------------
W1P8Q1         110  LTMLNHPIFLAPWQCLSQCVVEG-----GNAFEKAH-GSKIFKYAL------NNPG----
W1P633         120  LTMLNHPIFLAPWHRFSRCVVEG-----GDAFEIAH-----------------------
W1P8Q7         120  LTMLNHPIFLAPWHCFSRCVVER-----VDAFEKAH-GSKLWMYTA------NNTG----
W1NGT5         107  SLLLGHPTILAPWHYVSKCMSEG-----GKPFEKAH-HRDFFDHNS------DNLG----
W1NP75           1  ------------------------------------------------------------
W1P628          42  LMMLSHPTSIAPWYCLSRCVKEGE----SDAFKVAY-GSLLWEYAS------ENPG----
U5CKV5           1  ------------------------------------------------------------
U5CKV5           1  ------------------------------------------------------------
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AtIAMT        188  AAYNRGRVFIHGAGEKT-TTAYKRQFQADL--AEFLRARAAEVKRGGAMFLVCLGR--TS
AnmBAMT       161  -DNNRQNIYMATESPPEVYKAYAKQYERDF--STFLKLRGEEIVPGGRMVLTFNGRSVED
CbSAMT        161  --SNKGNIYMANTCPQSVLNAYYKQFQEDH--ALFLRCRAQEVVPGGRMVLTILGRRSED
AtJMT         183  DLENMGKIYISKTSPKSAHKAYALQFQTDF--LVFLRSRSEELVPGGRMVLSFLGRRSLD
W1PM29        216  --INVLESLIETEEPGCFDFAFVDAEKRMY--KEYYELLLQLVRPGGVIVIDNVLW----
PitCCoAOMT    154  PVLDE--LLKNEDMHGSFDFVFVDRDKDNY--LNYHKRLIDLVKVGGLIAYDNTLW----
ZeCCoAOMT     140  PLLDQ--MLQDEKCHGSFDFIFVDADKDNY--LNYHKRLIDLVKFGGVICYDNTLW----
PcCCoAOMT     136  PVLDH--MLEDGKYHGTFDFVFVDADKDNY--INYHKRLIDLVKIGGLIGYDNTLW----
MsCCoAOMT     142  PVLDE--MIKDEKNHGSYDFIFVDADKDNY--LNYHKRLIDLVKVGGVIGYDNTLW----
NtCCoAOMT     134  PVLDQ--MIEDGKYHGSYDFIFVDADKDNY--LNYHKRLIDLVKIGGLIGYDNTLW----
U5CX90        141  PVLDQ--MLEDEKYHGSFDFIFVDADKDNY--LNYHKRLIELVKVGGVIGYDNTLW----
PotCCoAOMT    142  PVLDQ--MIEDGKCHGSFDFIFVDADKDNY--INYHKRLIELVKVGGLIGYDNTLW----
VvCCoAOMT     137  PVLDQ--MIEDGKYHGSFDFIFVDADKDNY--LNYHKRLIDLVKVGGIIGYDNTLW----
SlCCoAOMT     137  TLLDD--LLADGRYQGSYDFAFVDADKTNY--VNYHERLIELVKVGGIIAYDNTLW----
McCCoAOMT     133  LALDN--LLQGQESEGSYDFGFVDADKPNY--IKYHERLMKLVKVGGIVAYDNTLW----
U5CZ55        122  PILDE--LLQDPKEEGSFDFAFVDADKPNY--ENYHERLLKLVKVGGLIMYDNTLW----
U5D229        100  PFLDN--LLEDPKEEGSFDFAFVDADKANY--INYHERLLKLVRVGGLILYDNTLWGGTV
U5D520         37  PFLDE--LLEDPKNEGSYDFAFVDADKNNY--SNYHERLLKLVKVGGVIVYDNTLW----
U5CZN4         88  PYLDE--LLQDPKVEGSFDFAFVDADKENY--LNYHERLLRLVKVGGLIMYDNTLW----
U5D0E8          1  -------------------------------------------------MYDNTLW----
CjCoOMT       159  --INE--ILNDAMTSHS--TFMLPALVSGLMKENVLDGVASIVDVGGNSGVVAKGI--VD
W1P9N8         78  ---------------------------------ISTRTDSNGATCYTLTRL----
Hv7OMT        198  --FNT--VFNKAMGASS--EFVAALAVREC--RDVFAGIKSLVDVAGGNGTTARTI--AE
W1P041        160  --FNE--RMMEAMSSSS--GAVMDWFLERY---DGFEGVRRVVDLGGSSGFCLKKI--LD
Cr4   OMT     165  --HCQ--IFEDAMANDS--VLVSKLLVTEY--KFLFEGLTSLIDLGGSTGTIAKAL--AK
CrOMT2        152  --YGK--NFDGVMAADS--ILVSKMLIPEF--NYLFEGLDSLVDVGGSTGTIAKAI--AK
ObCVOMT       165  --MGR--FFDEAMSCDS--RLVAHVLTKDY--KHVIDGIRTLVDVGGGNGTMAKAI--VE
ObEOMT        166  --KGR--FFDEAMSCDS--RLIAHVFTKDY--KHVIEGIRTLVDVGGGNGTMAKAI--VE
Mp8OMT        171  --LNV--LFNEAMACDA--GFVNSILTTEC--REIFDGLESMVDVGGGTGATAKGI--AA
RhOOMT1       173  --IAH--LFNDAMASDA--RLVTSVIINDC--KGVFEGLESLVDVGGGTGTLAKAI--AD
RhOOMT2       172  --IAH--LFNDAMASDA--RLVTSVIIDDC--KGVFEGLESLVDVGGGTGTVAKAI--AD
PsHMM         165  --SDSLSMFQDAMAADS--RLFKLAIQEN---KHVFEGLESLVDVAGGTGGVAKLI--HE
GeHI4    OMT  172  --SGTLSMFQEAMAADS---QMFKLALKEC--RHVFEGLESLVDVGGGTGGVTKLI--HE
LjHI4    OMT  170  --SDTLSMFQEAMAADS---HMFKLALKEC--KHVFEGLGSLVDVAGGRGGVTKLI--RE
MsI7OMT       160  --YNT--SFNDAMASDS---KLINLALRDC--DFVFDGLESIVDVGGGTGTTAKII--CE
GeD7OMT       165  --YNK--SFNDAMASDS---QMINLALRDC--NSGFEGVESIVDVGGGIGTTAKII--CD
Mp4    OMT    152  --MK---VFSDAMAAHA--RETTAAIVRYC--PAAFEGIGTVVDVGGRHGVALEKL--VA
Mp7OMTa       150  --FSM-KVFRDAMASHA--RMTTAAVIENY--GEGFQGVGSLVDVGGSYGMALSML--VK
Mp7OMTb       150  --FSM-KVFRDAMASHA--RMTTAAVIENY--GEGFLGVGSLVDVGGSYGMALSML--VK
AmmCOMT       165  --LAE--LLSQAMDKSI--ATSMNILLQMY--K-GLEGVQEVVDVGGAHGATLSCI--VS
Cj9OMT        187  --VNK--SFNQAMGAGS--TIAFDEVFKVY--K-GFDNLKELVDVGGGIGTSLSNI--VA
Ms2    OMT    181  --MNQ--IFNKSMVDVC--ATEMKRMLEIY--T-GFEGISTLVDVGGGSGRNLELI--IS
Cj6OMT        155  --KNQ--LFNEAMANDS--RLIMSALVKEC--GNIFNGITTLVDVGGGTGTAVRNI--AN
Cj4    OMT    159  --QSQ--LFNEGMAGET--RLLTSSLISGS--RDMFQGIDSLVDVGGGNGTTVKAI--SD
U5DBV9        163  --ENR--AFNEAMACLA--RLVMPAIVGGC--ERLLQGARSVVDVGGGTGTAVGAL--AK
Mp3    OMT    173  --FNK--IFNQAMHNQS--IIFMKRILEIY--K-GFEGVKSLVDVGGGTGASSKMI--VS
RcPOMT        180  --FNR--VFNQAMSNHT--TLILKKILDVY--R-GFEGINVLVDVGGGIGVTLNLI--TN
ZmCOMT        173  --FNR--VFNEGMKNHS--VIITKKLLDFY--T-GFEGVSTLVDVGGGVGATLHAI--TS
TaOMT2        165  --FNR--VFNESMKNHS--IIITKKLLESY--K-GFEGLGTLVDVGGGVGATVAAI--TA
AmmBMT        162  --FNK--AFNRSMRGHS--TITMKKILETY--K-GFEGLKSIVDVGGGTGATLNMI--IS
ZeCOMT        163  --FNK--VFNSGMFNHS--TMTMKKIVELY--N-GFSGLKTLVDVGGGTGASLNMI--TS
W1NLC7        167  --FNK--VFNRGMSDHS--TITMKKILDDY--P-GFEGLNCIVDVGGGIGATLNMI--VG
CbIEMT        175  --FNK--VFNKGMSSNS--TITMKKILEMY--N-GFEGLTTIVDVGGTGAVASMI--VA
At3    OMT    170  --FNK--VFNNGMSNHS--TITMKKILETY--K-GFEGLTSLVDVGGGIGATLKMI--VS
MsCOMT        172  --FNK--VFNKGMSDHS--TITMKKILETY--T-GFEGLKSLVDVGGGTGAVINTI--VS
Ca3   5   OMT 148  --SNK--VFNKGMSDFS--SMIIKKILETY--K-GFQGLTSLVDVGGGTGATLTKI--LS
CaOMT2        148  --FNK--VFNRGMSDHS--TITMKKVFQTY--Q-GFQGLTSLVDVGGGTGATLTMI--LS
W1PG58         20  ---------------------------------EHEQLDVNSVVDVGGGTGTALRAT--IE
PitAEOMT      181  --FNN--LFNNAMACNA--RIVMKAILSKY--Q-GFHSLNSLVDVGGGTGTAVAEI--VR
W1P0L5        156  --YSR--LFNEAMACNA--QIVLEALLRGY--ENGFEGLGSLVDVGGGTGMTIGEI--VR
W1P0K5          1  ------------------------------------------------------------
W1P6Z4          1  ------------------------------------------------------------
U5D1A9          1  -----------MASNS--RVVLDALLLEY--KSEFAGFTSLVDVAGGTGTAISKI--VE
U5CUU9          1  -----------MASNS--RVVLDALLLEY--KSEFAGFSSLVDVAGGTGTAISKI--VE
U5CZT3          1  -----------MASNS--RVVLDALLLEY--KSEFAGFTSLVDVAGGTGTAISKI--VE
W1P8Q1        154  --SNE--IFNEAMASDA--RVVLDALLSQY--KSGFAGLTSLVDVGGGTGTAVIAI--VK
W1P633        151  --------------------------------GFAGLTSLVDVAGGTGTVVSAI--VK
W1P8Q7        164  --AND--IFNEAMASDT--VVVLEALLSEY--KSGFAGLTSLVDVAGGTGTAVSAI--VK
W1NGT5        151  --FVH--IFNDAMASGA--RVVLEALLSEH--KSVFSGLTSLVDVGGGTGTALNEI--VK
W1NP75          1  ------------------------------------------------------------
W1P628         87  --YNG--LFNEAMTSNA--RVIFRALLSEY--ESGFVTSLVDVGGGTGTAVSEI--VK
U5CKV5          1  --------------------------ALLSEY--ESGFSGLTTLVDVGGGTGTTLSEI--VK
U5CKV5          1  ------------------------------------------------------------
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AtIAMT       243 VD-----------PTDQGGAGLLFGTHFQDAWDDLVREGLVAAEKRDGFNIPVYAPSL
AnmBAMT      218 PS-----------SKDDLAIF----TLLAKTLVDMVAEGLVKMDDLYSFNIPIYSPCT
CbSAMT       217 RA-----------STECCLIW----QLLAMALNQMVSEGLIEEEKMDKFNIPQYTPSP
AtJMT        241 PT-----------TEESCYQW----ELLAQALMSMAKEGIIEEEKIDAFNAPYYAASS
W1PM29       268 ----------------------------------------------HGRVADPLVND
PitCCoAOMT   206 ----------------------------------------------NGSV---VAPP
ZeCCoAOMT    192 ----------------------------------------------NGSL---VAPA
PcCCoAOMT    188 ----------------------------------------------NGSV---AQPA
MsCCoAOMT    194 ----------------------------------------------NGSV---VAPP
NtCCoAOMT    186 ----------------------------------------------NGSV---VAPP
U5CX90       193 ----------------------------------------------NGSV---VAPP
PotCCoAOMT   194 ----------------------------------------------NGSV---VAPP
VvCCoAOMT    189 ----------------------------------------------NGSV---VAPP
SlCCoAOMT    189 ----------------------------------------------GGTV--ALPES
McCCoAOMT    185 ----------------------------------------------GGTV--AQPES
U5CZ55       174 ----------------------------------------------GGS----VAQD
U5D229       156 AEDEASVTEYMRPNRQHLMKLNQFLAVDPRIEISQVPGDSDVE------QGAMRFRAPLP
U5D520        89 ----------------------------------------------GGS----VAKD
U5CZN4       140 ----------------------------------------------GGSL----AMD
U5D0E8         8 ----------------------------------------------GGSL----AMD
CjCoOMT      211 AF-----------PHVKCSVM----DLNHVIERVIKNPKLDYV----AGDMFTSIPNA
W1P9N8        96 ----------------------------------------------SGCLSRNKEHS
Hv7OMT       248 AF-----------PYVKCSVL----DLPQVIQGISSHGTVEFV----AGDMEFVPPA
W1P041       209 KH-----------KGLEGINF----DLPKVVEAAPPYLGIEHV----GGDMLEWVPQG
Cr4  OMT     215 SF-----------PNLKCTVF----DLPHVANLESTKNLEFV----GGDMFEKLPPS
CrOMT2       202 SF-----------PDLKCTVF----DLPHVANLESTENLEFV----GGDMFEKIPSA
ObCVOMT      215 AV-----------PTMKCTVL----DLPHVAGLESTDKLSYI----GGDMFQSIPSA
ObEOMT       216 AM-----------PTIKCTVI----DLPHVAGLESTDNLNYI----GGDMFQSIPSA
Mp8OMT       221 AF-----------PGMECTVL----DLPNVGGLKGSENLSFV----SGDMFDFIPHA
RhOOMT1      223 AF-----------PHIECTVL----DLPHVADLQGSKNLKYT----GGDMFEAVPSA
RhOOMT2      222 AF-----------PHIECTVL----DLPHVADLQGSKNLKYT----GGDMFEAVPPA
PsHMM        216 AF-----------PHIKCTVF----DQPQVVGNLTGNENLNFV----GGDMFKSVPSA
GeHI4   OMT  223 EF-----------PHLKCTVF----DQPQVVGNLSGNENLKFV----GGDMFKSIPPA
LjHI4   OMT  221 AF-----------PHVKCTVF----DQPQVVANLTGDENLNFV----GGDMFKSVPPA
MsI7OMT      209 TF-----------PKLKCIVF----DRPQVVENLSGSNNLTYV----GGDMFTSIPNA
GeD7OMT      214 TF-----------PNLKCIVF----DRPKVVENLSGTNNLSYV----GGDMFQSVPKA
Mp4   OMT    201 AF-----------PWVRGISF----DLPEIVAKAPPRPGIEFV----GGSFFESVPKG
Mp7OMTa      201 AF-----------PWLRGICF----DLPEVVARASPLKGVEFV----GGTMFESIPKA
Mp7OMTb      201 AF-----------PWLRGICF----DLPEVVARASPLKGVEFV----AGSMFESIPKA
AmmCOMT      214 MN-----------PHLKGINF----DLPHVKNAPSLPGIVHV----GGDMFESVPRG
Cj9OMT       236 KH-----------PHIRGINF----ELPHVIGDAPDYPGVEHV----PGDMFEGVPNA
Ms2   OMT    230 KY-----------PLIKGINF----DLPQVIENAPPLSGIEHV----GGDMFASVPQG
Cj6OMT       205 AF-----------PHIKCTVY----DLPHVIADSPGYSEVHCV----AGDMFKFIPKA
Cj4   OMT    209 AF-----------PHIKCTLF----DLPHVIANSYDLPNIERI----GGDMFKSVPSA
U5DBV9       213 AF-----------PSVKFTLY----DLPHVVATVGELNGVDTV----GGDMFSAIPKA
Mp3   OMT    222 KY-----------PLIKAINF----DLPHVIQDASPHPEVEHV----GGDMFVSVPKA
RcPOMT       229 KY-----------PHIKGINF----DLPHVLADAPSYPGVEHV----GGDMFKSVPQG
ZmCOMT       222 RH-----------PHISGVNF----DLPHVISEAPPFPGVRHV----GGDMFASVPAG
TaOMT2       214 HY-----------PTIKGINF----DLPHVISEAPPFPGVTHV----GGDMFQKVPSG
AmmBMT       211 KY-----------PTIKGINF----DLPHVGDAPSLPGVEHV----GGNMFASVPKG
ZeCOMT       212 KH-----------KSLKGINF----DLPHVIADATTYQGIEHV----GGDMFESVPKG
W1NLC7       216 KY-----------GHIKGINF----DLPHVIADAPEFPGVTHV----GGDMFESVPTG
CbIEMT       224 KY-----------PSINAINF----DLPHVIQDAPAFSGVEHL----GGDMFDGVPKG
At3   OMT    219 KY-----------PNLKGINF----NLPHVIEDAPSHPGIEHV----GGDMFVSVPKG
MsCOMT       221 KY-----------PTIKGINF----DLPHVIEDAPSYPGVEHV----GGDMFVSIPKA
Ca3  5  OMT  197 KY-----------PTIRGINF----DLPHVIQDAPEYPGIEHV----GGDMFVSVPKG
CaOMT2       197 KY-----------PTIRCINF----DLPHVIEDAPEYPGIEHV----GGDMFVSVPKG
W1PG58        46 AY-----------PHIRGINF----DLPHVVDACVEQQGVVHM----GGGMFVAIPKA
PitAEOMT     230 AY-----------PFIRGINY----DLPHVVATASSLSGVQHV----GGDMFETVPTA
W1P0L5       206 AN-----------PHISGINF----DLPHVVATAPHYPGVVHIGVKPGQDNAKSLNQA
W1P0K5         1 --------------------------------------------------------
W1P6Z4         1 --------------------------------------------------------
U5D1A9        43 AN-----------PHISGINF----DLPHVVATAPNYPGVVNV----GGDMFSSIPSA
U5CUU9        43 AN-----------PHISGINF----DLPHVVATAPKYPGVVNV----GGDMFSSIPSA
U5CZT3        43 AN-----------PHISGINF----DLPLVVATAPKYPGVVNV----GGDMFSSIPSA
W1P8Q1       204 AH-----------PHISGINF----DLPHVVSSAPEHPGVVNV----SGDMFISIPHA
W1P633       175 AD-----------PHISGINF----DLPQVVSSAPEHPGVVHV----SGDMFISIPHA
W1P8Q7       214 AH-----------PHISRINF----DLPQVVSSAPEHPGVVHV----SGDMFISIPHA
W1NGT5       201 AN-----------PHISGINF----DLPDVVSTAPNYPGVLHV----GGDMFSSIPTA
W1NP75         1 --------------------------------------------------------
W1P628       137 AH-----------PHISGINF----DLPHVVSTATEYPGVVHV----GGDMFASIPHA
U5CKV5        33 AH-----------PHISGINF----DLPHVVSTAQDYPGVVHV----GGDMFVSIPHA
U5CKV5         1 --------------------------------------------------------
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AtIAMT      290  QDFK----------------------------------------------EVVDANGSFA
AnmBAMT     261  REVE--------------------------------------------AAILSEGSFTLDR
CbSAMT      260  TEVE--------------------------------------------AEILKEGSFLIDH
AtJMT       284  EELK--------------------------------------------MVIEKEGSFSIDR
W1PM29      279  KKTM---------------------------------------------------------
PitCCoAOMT  214  DAPL---------------------------------------------------------
ZeCCoAOMT   200  DAPL---------------------------------------------------------
PcCCoAOMT   196  DAPM---------------------------------------------------------
MsCCoAOMT   202  DAPL---------------------------------------------------------
NtCCoAOMT   194  DAPL---------------------------------------------------------
U5CX90      201  DAPL---------------------------------------------------------
PotCCoAOMT  202  DAPM---------------------------------------------------------
VvCCoAOMT   197  DAPL---------------------------------------------------------
SlCCoAOMT   198  EVPD---------------------------------------------------------
McCCoAOMT   194  EVPD---------------------------------------------------------
U5CZ55      181  EALV---------------------------------------------------------
U5D229      210  RALS------------------LSVVEMIHIKLRGKVRLPLGVALLCEGMVRMLC
U5D520       96  ESLV---------------------------------------------------------
U5CZN4      147  ESSL---------------------------------------------------------
U5D0E8       15  ESSL---------------------------------------------------------
CjCoOMT     250  DAIL-----------------------------------------LKSTLHNYEDDDC
W1P9N8      107  MAAF---------------------------------------------------------
Hv7OMT      287  EAVL-----------------------------------------LKYVLHNWSDQDC
W1P041      248  DVIF-----------------------------------------MKGILCSWDDDEC
Cr4    OMT  254  NAIL-----------------------------------------LKWILHDWNDEDC
CrOMT2      241  NAIL-----------------------------------------LKWILHDWKDEEC
ObCVOMT     254  DAIL-----------------------------------------LKFIIHDWDDEEG
ObEOMT      255  DAIL-----------------------------------------LKSIIHDWDDVEG
Mp8OMT      260  DAIF-----------------------------------------MKFILHDWNDEEC
RhOOMT1     262  DTVL-----------------------------------------LKWILHDWNDEEC
RhOOMT2     261  DTVL-----------------------------------------LKWILHDWNDEEC
PsHMM       255  DAVL-----------------------------------------LKWVLHDWNDELS
GeHI4   OMT 262  DAVL-----------------------------------------LKWVLHDWNDELS
LjHI4   OMT 260  DAVL-----------------------------------------LKWVLHDWNDELS
MsI7OMT     248  DAVL-----------------------------------------LKYILHNWTDKDC
GeD7OMT     253  DAVL-----------------------------------------LKWILHNWTDNDC
Mp4    OMT  240  DLVL-----------------------------------------LMWILHDWSDESC
Mp7OMTa     240  DVVM-----------------------------------------LMFVLHNWSDEEC
Mp7OMTb     240  DVVM-----------------------------------------LMFVLHNWSDEEC
AmmCOMT     253  DVIL-----------------------------------------LQRLLHDWTDEES
Cj9OMT      275  QNIL-----------------------------------------LKWVLHDWDDDRS
Ms2    OMT  269  DAMI-----------------------------------------LKAVCHNWSDEKC
Cj6OMT      244  DAIM-----------------------------------------MKCILHDWDDKEC
Cj4    OMT  248  QAII-----------------------------------------LKLILHDWNDEDS
U5DBV9      252  DVVF-----------------------------------------LMRILHDWGDKEC
Mp3    OMT  261  DAIF-----------------------------------------LKWICHDWSDEHC
RcPOMT      268  DAIF-----------------------------------------MKWILHDWSDEHC
ZmCOMT      261  DAIL-----------------------------------------MKWILHDWSDAHC
TaOMT2      253  DAIL-----------------------------------------MKWILHDWSDEHC
AmmBMT      250  DAIF-----------------------------------------LKWIFHSWGDEEC
ZeCOMT      251  DAIF-----------------------------------------MKWILHDWSDAHC
W1NLC7      255  DAIF-----------------------------------------MKWILHDWGDEYC
CbIEMT      263  DAIF-----------------------------------------IKWICHDWSDEHC
At3    OMT  258  DAIF-----------------------------------------MKWICHDWSDEHC
MsCOMT      260  DAVF-----------------------------------------MKWICHDWSDEHC
Ca3  5 OMT  236  DAIF-----------------------------------------MKWICHDWNEEQC
CaOMT2      236  DAIF-----------------------------------------MKWICHDWSDEHC
W1PG58       85  DVAL-----------------------------------------LMRVLHDWGDEEC
PitAEOMT    269  DAIF-----------------------------------------MKWIMHDWNDEDC
W1P0L5      249  MALLDLTGAQWARTGPIGTRAQLAPGWDEPRPGPLPLLSCMNLRNLPLKWIMHDWGDEDC
W1P0K5        1  --------------------------------------------------SILHDWDDDDC
W1P6Z4        1  --------------------------------------------------WILHDWDDDDC
U5D1A9       82  DGVF-----------------------------------------MK-----------
U5CUU9       82  DGVF-----------------------------------------MKWILHDWKDEDC
U5CZT3       82  DGVF-----------------------------------------MK-----------
W1P8Q1      243  DAVF-----------------------------------------MKWILHDWKDEDC
W1P633      214  DAVF-----------------------------------------MK-----------
W1P8Q7      253  DAVF-----------------------------------------MKWILHDWNDEDC
W1NGT5      240  DAVF---------------------------------------------------------
W1NP75        1  --------------------------------------------WILHNWEDEEC
W1P628      176  DAVF---------------------------------------------------------
U5CKV5       72  DAVL-----------------------------------------MKWIFHDWEDEEC
U5CKV5        1  --------------------------------------------------------------
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AtIAMT        304 IDKLVV---------------------------YKGGSPLVVNEPDDASEVGRAFASSCRSVAGV
AnmBAMT       278 LEVFRV---------------------------CWDASD----YTDDDDQQDPSIFGKQRSGKFV
CbSAMT        277 IEASEI---------------------------YWSSCTKDGDGGSVEEEGYNVARCMRAVA--
AtJMT         301 LEISPI---------------------------DWEGGSISEESYDLATRSKPEALASGRRVSNT
W1PM29        283 ------------------------------SIR----DFNRSIFEDKRV----------
PitCCoAOMT    218 RKYVRY---------------------------YRDFVM----ELNKALAVDPRI----------
ZeCCoAOMT     204 RKYVRY---------------------------YRDFVL----ELNKALAVDPRV----------
PcCCoAOMT     200 RKYVRY---------------------------YRDFVI----ELNKALAADPRI----------
MsCCoAOMT     206 RKYVRY---------------------------YRDFVL----ELNKALAVDPRI----------
NtCCoAOMT     198 RKYVRY---------------------------YRDFVL----ELNKALAADSRI----------
U5CX90        205 RKYVRY---------------------------YRDFVI----ELNKALAVDPRI----------
PotCCoAOMT    206 RKYVRY---------------------------YRDFVL----ELNKALAADPRI----------
VvCCoAOMT     201 RKYVRY---------------------------YRDFVL----ELNKALAADPRI----------
SlCCoAOMT     202 --FMKN---------------------------NWVCVT----KLNEILGSDARI----------
McCCoAOMT     198 --FMKE---------------------------NREAVI----ELNKLLAADPRI----------
U5CZ55        185 PDFLKP---------------------------NRHHLI----NFNRALAIDPRV----------
U5D229        247 TRHLRAVVFLVLPLLVLGLPLLRGRELLSNHFHPLGVLRGMEVLRLRMVF-RPLRTLTMM
U5D520        100 EEYMKY---------------------------FRQFVM----KFNQILATDRRI----------
U5CZN4        151 SEHMKK---------------------------TRPNLL----KLHETLAIDSRV----------
U5D0E8         19 SEHMKK---------------------------TRPNLL----KLQETLAIDSRV----------
CjCoOMT       267 IKILNI---------------------------AKEALP---STGGKVILVEIVV-DTENLPLFT
W1P9N8        111 ------------------------------------------------NTI----------
Hv7OMT        304 VKILTR---------------------------CREAIS-HGEKAGKVIIIDTVV----GSPSQQ
W1P041        265 VGLLKN---------------------------CYKALP----EKGKVIALEQVL-PMHTDTS-P
Cr4    OMT    271 VKILKN---------------------------CKKAIQ-EKGNGGKVIIIDTVV-YSQKNEK-E
CrOMT2        258 VKVLKM---------------------------CRKAIP-EKEKGGKVILIETVLMDSKKHENEE
ObCVOMT       271 LKILKR---------------------------CKDAVG----IGGKVIIIDVVV-GVNHDVD-E
ObEOMT        272 LKILKK---------------------------CKDAVV---MGGKVIIIDVVV-GVNHDID-E
Mp8OMT        277 VKILKK---------------------------CKEAISRSNNSCRKIILVEIVM-EDEKETH-E
RhOOMT1       279 IKILER---------------------------SRVAIT-GKEKKGKVIIIDMMM-ENQKGDE-E
RhOOMT2       278 IKILKR---------------------------SRVAIT-SKDKKGKVIIIDMMM-ENQKGDE-E
PsHMM         272 LKILKN---------------------------SKEAIS-HKGKDGKVIIIDISI--DENSDDRG
GeHI4   OMT   279 LKILKN---------------------------SKEAIS-GKGKEGKVIIIDISI--DEASGDRE
LjHI4   OMT   277 LKILKN---------------------------CKEAIS-GRGKEGKVIIIDISI-DETSDDR-E
MsI7OMT       265 LRILKK---------------------------CKEAVT-NDGKRGKVTIIDMVI--DKKKDENQ
GeD7OMT       270 RRILEK---------------------------CKEAVS-SDGEKGKVIIIEMVI-NENQDEH-E
Mp4    OMT    257 IEIMKK---------------------------CKEAIP----TSGKVMIVDAIV--DEDGEGDD
Mp7OMTa       257 VEILKR---------------------------CKDAVS---KDKGKVIIIDAVI--DEDGDGDE
Mp7OMTb       257 VEILKR---------------------------CKDAVP---KNKGKVIIIDAVI-DEDGNGD-E
AmmCOMT       270 VKILKT---------------------------CHEALP----DHGKVIIEMMP-AELPEND-V
Cj9OMT        292 IKILKN---------------------------CWKALP----ENGTVIVIEFVL-PQVLGNN-A
Ms2    OMT    286 IEFLSN---------------------------CHKALS----PNGKVIIVEFIL-PEEPNTS-E
Cj6OMT        261 IEILKR---------------------------CKEAVP---VKGGKVIIIVDIVL---NVQSEHP
Cj4    OMT    265 IKILKQ---------------------------CRNAVP---KDGGKVIIVDVAL-DEESDHELS
U5DBV9        269 LEILKQ---------------------------IRKAIP----EEGKVIIVDVVL---KEEEEHV
Mp3    OMT    278 RKLLKN---------------------------CYDAIL----GNGKVIIAESTL-PEDPNSG-P
RcPOMT        285 LTLLKN---------------------------CCKSLP----SSGKVIFVESIL-PEVPDST-V
ZmCOMT        278 ATLLKN---------------------------CYDALP----ENGKVIVVECVL-PVNTEAT-P
TaOMT2        270 ATLLKN---------------------------CYDALP----AHGKVLVECIL-PVNPEAT-P
AmmBMT        267 LKILKK---------------------------CHQALG----DNKKVIVAEFIL-PEDPGGSDS
ZeCOMT        268 LQVLKN---------------------------CYKSLP----ENGKVIVAECIL-PEAPDTT-P
W1NLC7        272 HKLLKN---------------------------CYKALP----DSGKVIIAESIL-PIAAENS-L
CbIEMT        280 LKLLKN---------------------------CYAALP----DHGKVIVAEYIL-PPSPDPS-I
At3    OMT    275 VKFLKN---------------------------CYESLP----EDGKVILAECIL-PETPDSS-L
MsCOMT        277 LKFLKN---------------------------CYEALP----DNGKVIVAECIL-PVAPDSS-L
Ca3  5   OMT  253 LKLLKN---------------------------CYDALP----NNGKVIVAEYIL-PVVPDSS-L
CaOMT2        253 LKLLKN---------------------------CYDALP----NNGKVILAECIL-PEVPDSS-L
W1PG58        102 IAILKN---------------------------CREAIP---MERKKVVIVEIVI---REEEKQE
PitAEOMT      286 IKILKN---------------------------CRKAIP----DTGKVIIVDVVL-DADQGDN-T
W1P0L5        309 VKILKQ---------------------------CKKAIP---EKTGKVIIVDAVV-GGKEGV---
W1P0K5         12 VKILEQ---------------------------CKKAIP---RNSGKLIIVDAVL-HPDDGTS-A
W1P6Z4         12 VKILDQ---------------------------CKKAIP---KNSGKLIIVDAVL-RPEDDTS-A
U5D1A9            ----------------------------------------------------------
U5CUU9         99 VKILKQ---------------------------CRKALP--SKSGKLIIVDVVL----------
U5CZT3            ----------------------------------------------------------
W1P8Q1        260 VKILKQ---------------------------CRKALP---SKSGKLIIVDVVL--HLKEDTSA
W1P633            ----------------------------------------------------------
W1P8Q7        270 VKILKQ---------------------------CRKALP---SKSGKLIIVDVVL-HLKEDTS-A
W1NGT5        244 MKVFH----------------------------------------------------
W1NP75         12 VKILKQ---------------------------CKKSIP---KNGGKLIIVDAVL-RPEEDTS-S
W1P628        180 MKV------------------------------------------------------
U5CKV5         89 VKILKQ---------------------------CKKSIP---KNGGKLIIVDAVL-RPEEDTS-S
U5CKV5          1 ----------------------------------------------------------
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AtIAMT       342 LVEAHIG--------------------------EELSNKLFSRVESRATSHAKDVLVNLQFFHIV
AnmBAMT      312 ADCVRAIT-------------------------EPMLASHFGSTIMDLLFGKYAKKIVEHLS--V
CbSAMT       313 -------------------------------EPLLLDHFGEAIIEDVFHRYKLLIIERMS--K
AtJMT        339 IRAVV----------------------------EPMLEPTFGENVMDELFERYAKIVGEYF---Y
W1PM29       298 -----------------------------------SICVVPIGDGMTICCKR---------
PitCCCoAOMT  242 ----------------------------------EISQIPVLDGVTLCRRVY--------
ZeCCoAOMT    228 ----------------------------------EICQLPVGDGITLCRRIS--------
PcCCoAOMT    224 ----------------------------------EICMLPVGDGVTLCRRIS--------
MsCCoAOMT    230 ----------------------------------EICMLPVGDGITICRRIK--------
NtCCoAOMT    222 ----------------------------------EICQLPVGDGITLCRRIS--------
U5CX90       229 ----------------------------------EICQLPVGDGITLCRRVS--------
PotCCCoAOMT  230 ----------------------------------EICMLPVGDGITLCRRIQ--------
VvCCoAOMT    225 ----------------------------------EICMLPVGDGITLCRRLS--------
SlCCoAOMT    224 ----------------------------------DIAHLPVGDGITFCRRVY--------
McCCoAOMT    220 ----------------------------------EIVHLPLGDGITFCRRLY--------
U5CZ55       209 ----------------------------------EISQIPVGDGVTLCRRLY--------
U5D229       306 MMKALNT-------LGRSNATRTAKIPRNLSNTEEKLYHGPGATQYVYSPLIGSMRLA
U5D520       124 ----------------------------------EISQIPVADGVTICRRLC--------
U5CZN4       175 ----------------------------------EISQIFIADGVTLCRRLY--------
U5D0E8        43 ----------------------------------EISQIFIAD----------------
CjCoOMT      301 SARLSMG--------MDMMLMSG-----KERTKKEWEDLLRKANFTSHQVIPIMAIE---
W1P9N8           ---------------------------------------------------------
Hv7OMT       337 ILESQVT-------MDLSMMMLFNG--KVREEQNWHKIFLEAGFSHYKIHNVLGMR---
W1P041       297 STRALLQ-------ADVFLMAIYSPGSKRRTEDIFRRLSEAAGFRTLEIVLPGSF---Y
Cr4   OMT    306 LVDLQIS-------MDMAMVINFAA--KERTEEEWEHLIREAGFSGHKIFPMYDFR---
CrOMT2       295 AVKAQIS-------SDIDMMVFFTA--KERTEEEWATLFREAGFSGYKIFPMIDFR---
ObCVOMT      303 VLEDQLH-------FDMAMMSYFNA--KERTMNEWEKLISAAGFTSYKLTPAFGVR---
ObEOMT       304 VLEDQLH-------FDMAMMC-YFNA-KERTMSEWEKLIYDAGFKSYKLTPAFGVR--S
Mp8OMT       313 ATETKLF-------FDMQMLA-IITG-KERSEEWGKLFFDAGFTNYKITRVLGLR--S
RhOOMT1      314 SIETQLF-------FDMLMMA-LVGG-KERNEKEWAKLFTDAGFSDYKITPISGLR---
RhOOMT2      313 SIETQLF-------FDMLMMA-LVRG-QERNEKEWAKLFTDAGFSDYKITPILGLR--S
PsHMM        307 LTELQLE-------YDVVMLTMFLG--KERTKKEWEKLIYDAGFSRYKITPICGFK---
GeHI4    OMT 314 LTELQLD-------YDLVMLTMFNG--KEREKKEWEKLISDAGFSSYKITPICGFK---
LjHI4    OMT 312 LTELKLD-------YDLVMLT-MFNG-KEREKKEWEKLIYDAGFSSYKITPICGFK--S
MsI7OMT      300 VTQIKLL-------MDVNMACLNG---KERNEEEWKKLFIEAGFQHYKISPLTGFL---
GeD7OMT      305 ITGTKLL-------MDVNMAC--LNG-KERSEEEWKKLFIEAGFRDYKISPLTGFL--S
Mp4   OMT    289 FAGARLS-------LDLIMMAVLARG-KERTYREWEYLLREAGFTKFVVKNINTVE---
Mp7OMTa      290 FTGARLG-------LDVTMMATMFEG-RERTYVEWARIINEAGFRRHVVKNIKTLE---
Mp7OMTb      290 FTGARLG-------LDVTMMANMFEG-RERTYVEWAHIINEAGFRRHVVKNIKTLE--S
AmmCOMT      302 QAKNISQ-------VDIRMLIYTHGG-RERTAEEFQMLGKEAGFASSKFICGADLY--G
Cj9OMT       324 ESFNALT-------PDLLMMALNPGG-KERTTIEFDGLAKAAGFAETKFFPISQGL--H
Ms2   OMT    318 ESKLVST-------LDNLMFI-TVGG-RERTEKQYEKLSKLSGFSKFQVACRAFNS--L
Cj6OMT       293 YTKMRLT-------LDLDMML-NTGG-KERTEEEWKKLIHDAGYKGHKITQITAVQ---
Cj4   OMT    299 STRLILD-------IDML---VNTGG-KERTKEVWEKIVKSAGFSGCKIRHIAAIQ--S
U5DBV9       300 FRHARMG-------LDMVMMVQTGG--KERDEGEWAKLLHDAGFKKYEVVPIMAV---Y
Mp3   OMT    310 DTIHAIR-------GDVIMLTVNPGG-KERTEKEFRTLALQAGFKRLVKVCAAFHT--C
RcPOMT       317 TSNIVCE-------QDLLMFTQNPGG-KERTKKEYEALALKSGFSRLEVVCSAYNS--W
ZmCOMT       310 KAQGVFH-------VDMIMLAHNPGG-KERYEREFRELAKGAGFSGFKATYIYANA--W
TaOMT2       302 KAQGVVH-------VDMIMLAHNPGG-RERYEREFEALAKGAGFAAMKTTYIYANA--W
AmmBMT       300 ATKSAVH-------LDAIMLAYVPGG-KERTEKEFESLAKRAGFKSFTKVCCAFNT--W
ZeCOMT       300 ATQNVIH-------VDVIMLAHNPGG-KERTEKEFEALAKGAGFKGFNKAACALNT--W
W1NLC7       304 AAHGVFH-------VDCIMLAHNPGG-KERTEKEFEALAKGAGFAGIKVVCCAYGS--C
CbIEMT       312 ATKVVIH-------TDALMLAYNPGG-KERTEKEFQALAMASGFRGFKVASCAFNT--Y
At3   OMT    307 STKQVVH-------VDCIMLAHNPGG-KERTEKEFEALAKASGFKGIKVVCDAFGV--N
MsCOMT       309 ATKGVVH-------IDVIMLAHNPGG-KERTQKEFEDLAKGAGFQGFKVHCNAFNY--Y
Ca3  5   OMT 285 ASKLSVT-------ADVMIVTQNSGG-KERTEKEFEALAKAAGFQGFQVFCNAFTI--Y
CaOMT2       285 ATKGVVH-------IDVITVAHNPGG-KERTEKEFEALAKAAGFQGFQVFCNAFNT--Y
W1PG58       134 LSDTRLA-------LDMIMLAPTNTG-KEKTAQEWSHVLCEA----------------
PitAEOMT     318 DKKRKKAVDPIVGTVFDLVMVAHSSGG-KERTEKEWKRILLEGGFSRYNIIEIPALQ--S
W1P0L5       340 FGDATLA-------FDLVMIAHSSGG-KERTAEEWGKLLKDGGFRRFNIISIPTIQ--S
W1P0K5        45 FADSKLA-------FDLLMLALAPGG-KERTEKEWRALLSQGGFSKCNIISLPTLQ--A
W1P6Z4        45 FADSRLA-------FDLLMLALAPGG-KERTEKEWRTLLSQGGFSKCNIISLPTLQ--A
U5D1A9           ---------------------------------------------------------
U5CUU9       124 ---------------------HLKEDTSAFADS----------------
U5CZT3           ---------------------------------------------------------
W1P8Q1       293 FADSRLA-------FDMLMFAVTSGG-LERTEEEWRALLSKGGFSNCNIKPLPTLQ---
W1P633           ---------------------------------------------------------
W1P8Q7       303 FADSRLA-------FDMLMFAVTSGG-LERTEEEWRALLSKGGFSNCNIKPLPTLQ--S
W1NGT5           ---------------------------------------------------------
W1NP75        45 FADSRLA-------FDLVMVTLSTGG-KERTKKEWRDVLSQGGFGIRKIVSLPALQ--F
W1P628           ---------------------------------------------------------
U5CKV5       122 FADSRLA-------FDLVMVT-LSTG-EKNGQRKSGEMY-----------------
U5CKV5         1 ---------------------------------------------------------
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AtIAMT      381 ASLSFT-----------------------EELSNKLFSRVESRATSHAKDVLVNLQFFHIV
AnmBAMT     350 ENSSYFSIVVSLSRR-----------EPMLASHFGSTIMDLLFGKYAKKIVEHLS--V
CbSAMT      343 EKTKFINVIVSLIRKSD---------EPLLLDHFGEAIIEDVFHRYKLLIIERMS--K
AtJMT       373 VSSPRYAIVILSLVRTG---------EPMLEPTFGENVMDELFERYAKIVGEYF---Y
W1PM29          ------------------------------SICVVPIGDGMTICCKR---------
PitCCCoAOMT     ------------------------------EISQIPVLDGVTLCRRVY--------
ZeCCoAOMT       ------------------------------EICQLPVGDGITLCRRIS--------
PcCCoAOMT       ------------------------------EICMLPVGDGVTLCRRIS--------
MsCCoAOMT       ------------------------------EICMLPVGDGITICRRIK--------
NtCCoAOMT       ------------------------------EICQLPVGDGITLCRRIS--------
U5CX90          ------------------------------EICQLPVGDGITLCRRVS--------
PotCCCoAOMT     ------------------------------EICMLPVGDGITLCRRIQ--------
VvCCoAOMT       ------------------------------EICMLPVGDGITLCRRLS--------
SlCCoAOMT       ------------------------------DIAHLPVGDGITFCRRVY--------
McCCoAOMT       ------------------------------EIVHLPLGDGITFCRRLY--------
U5CZ55          ------------------------------EISQIPVGDGVTLCRRLY--------
U5D229      358 AAAAPLEIFHSQIKLD-RSNATRTAKIPRNLSNTEEKLYHGPGATQYVYSPLIGSMRLA
U5D520          ------------------------------EISQIPVADGVTICRRLC--------
U5CZN4          ------------------------------EISQIFIADGVTLCRRLY--------
U5D0E8          ------------------------------EISQIFIAD----------------
CjCoOMT     345 SIIVAYS----------MMLMSG-----KERTKKEWEDLLRKANFTSHQVIPIMAIE---
W1P9N8          ------------------------------------------------------
Hv7OMT      384 SLIEVQP---------LSMMMLFNG--KVREEQNWHKIFLEAGFSHYKIHNVLGMR---
W1P041      346 TALEFQK---------VFLMAIYSPGSKRRTEDIFRRLSEAAGFRTLEIVLPGSF---Y
Cr4   OMT   353 SIIEVYP---------MAMVINFAA--KERTEEEWEHLIREAGFSGHKIFPMYDFR---
CrOMT2      342 SPIEVYP---------IDMMVFFTA--KERTEEEWATLFREAGFSGYKIFPMIDFR---
ObCVOMT     350 SLIEAYP---------MAMMSYFNA--KERTMNEWEKLISAAGFTSYKLTPAFGVR---
ObEOMT      352 -LIEAYP---------MAMMC-YFNA-KERTMSEWEKLIYDAGFKSYKLTPAFGVR--S
Mp8OMT      361 -VIEVFP---------MQMLA-IITG-KERSEEWGKLFFDAGFTNYKITRVLGLR--S
RhOOMT1     362 -LIEVYP---------MLMMA-LVGG-KERNEKEWAKLFTDAGFSDYKITPISGLR--S
RhOOMT2     361 -LIEVYP---------MLMMA-LVRG-QERNEKEWAKLFTDAGFSDYKITPILGLR--S
PsHMM       354 SLIEVYP---------VVMLTMFLG--KERTKKEWEKLIYDAGFSRYKITPICGFK---
GeHI4 OMT   361 SLIEVFP---------LVMLTMFNG--KEREKEWEKLISDAGFSSYKITPICGFK---
LjHI4 OMT   360 -LIEVFP---------LVMLT-MFNG-KEREKEWEKLIYDAGFSSYKITPICGFK--S
MsI7OMT     346 SLIEIYP---------VNMACLNG---KERNEEWKKLFIEAGFQHYKISPLTGFL---
GeD7OMT     352 -LIEVYP---------VNMAC--LNG-KERSEEWKKLFIEAGFRDYKISPLTGFL--S
Mp4 OMT     337 FVIEAYP---------LIMMAVLARG-KERTYREWEYLLREAGFTKFVVKNINTVE---
Mp7OMTa     338 SVIEAYP---------VTMMATMFEG-RERTYVEWARIINEAGFRRHVVKNIKTLE---
Mp7OMTb     339 -VIEAYP---------VTMMANMFEG-RERTYVEWAHIINEAGFRRHVVKNIKTLE--S
AmmCOMT     351 -VVELYKKM-------IRMLIYTHGG-RERTAEEFQMLGKEAGFASSKFICGADLY--G
Cj9OMT      373 -VMEFHKINC------LLMMALNPGG-KERTTIEFDGLAKAAGFAETKFFPISQGL--H
Ms2 OMT     366 GVMEFYK---------NLMFI-TVGG-RERTEKQYEKLSKLSGFSKFQVACRAFNS--L
Cj6OMT      340 SVIEAYPY--------LDMML-NTGG-KERTEEEWKKLIHDAGYKGHKITQITAVQ---
Cj4 OMT     345 -VIEVFP---------ML---VNTGG-KERTKEVWEKIVKSAGFSGCKIRHIAAIQ--S
U5DBV9      347 SIIVAFP---------MVMMVQTGG--KERDEGEWAKLLHDAGFKKYEVVPIMAV---Y
Mp3 OMT     359 -IMECHK---------VIMLTVNPGG-KERTEKEFRTLALQAGFKRLVKVCAAFHT--C
RcPOMT      366 -VMEFHK---------LLMFTQNPGG-KERTKKEYEALALKSGFSRLEVVCSAYNS--W
ZmCOMT      359 -AIEFIK---------MIMLAHNPGG-KERYEREFRELAKGAGFSGFKATYIYANA--W
TaOMT2      351 -AIEFTK---------MIMLAHNPGG-RERYEREFEALAKGAGFAAMKTTYIYANA--W
AmmBMT      349 -IMEFSK---------AIMLAYVPGG-KERTEKEFESLAKRAGFKSFTKVCCAFNT--W
ZeCOMT      349 -VMEFCK---------VIMLAHNPGG-KERTEKEFEALAKGAGFKGFNKAACALNT--W
W1NLC7      353 -IIEFYK---------CIMLAHNPGG-KERTEKEFEALAKGAGFAGIKVVCCAYGS--C
CbIEMT      361 -VMEFLKTA-------ALMLAYNPGG-KERTEKEFQALAMASGFRGFKVASCAFNT--Y
At3 OMT     356 -LIELLKKL-------CIMLAHNPGG-KERTEKEFEALAKASGFKGIKVVCDAFGV--N
MsCOMT      358 -IMEFLKKV-------VIMLAHNPGG-KERTQKEFEDLAKGAGFQGFKVHCNAFNT--Y
Ca3 5 OMT   334 -IIEFSKNISN-----VMIVTQNSGG-KERTEKEFEALAKAAGFQGFQVFCNAFTI--Y
CaOMT2      334 -IIEFSKKICN-----VITVAHNPGG-KERTEKEFEALAKAAGFQGFQVFCNAFNT--Y
W1PG58          ---------------MIMLAPTNTG-KEKTAQEWSHVLCEA----------------
PitAEOMT    375 -VIEAFPR--------LVMVAHSSGG-KERTEKEWKRILLEGGFSRYNIIEIPALQ--S
W1P0L5      389 -VIEAFPE--------LVMIAHSSGG-KERTAEEWGKLLKDGGFRRFNIISIPTIQ--S
W1P0K5       94 -IIESFILLCGLH---LLMLALAPGG-KERTEKEWRALLSQGGFSKCNIISLPTLQ--A
W1P6Z4       94 -IIEAFPDE-------LLMLALAPGG-KERTEKEWRTLLSQGGFSKCNIISLPTLQ--A
U5D1A9          ------------------------------------------------------
U5CUU9          --------------------------HLKEDTSAFADS----------------
U5CZT3          ------------------------------------------------------
W1P8Q1      341 SIIEAYPDPKE-----MLMFAVTSGG-LERTEEEWRALLSKGGFSNCNIKPLPTLQ---
W1P633          ------------------------------------------------------
W1P8Q7      352 -IIEAYPDPNE-----MLMFAVTSGG-LERTEEEWRALLSKGGFSNCNIKPLPTLQ--S
W1NGT5          ------------------------------------------------------
W1NP75       94 -IIEAYPQEH------LVMVTLSTGG-KERTKKEWRDVLSQGGFGIRKIVSLPALQ--F
W1P628          ------------------------------------------------------
U5CKV5          ---------------LVMVT-LSTG-EKNGQRKSGEMY----------------
U5CKV5        1 ------------------------------------------------------
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AtIAMT       381 ASLSFT--------------------------EELSNKLFSRVESRATSHAKDVLVNLQFFHIV
AnmBAMT      350 ENSSYFSIVVSLSRR-------------EPMLASHFGSTIMDLLFGKYAKKIVEHLS--V
CbSAMT       343 EKTKFINVIVSLIRKSD-----------EPLLLDHFGEAIIEDVFHRYKLLIIERMS--K
AtJMT        373 VSSPRYAIVILSLVRTG-----------EPMLEPTFGENVMDELFERYAKIVGEYF---Y
W1PM29           -----------------------------------SICVVPIGDGMTICCKR--------
PitCCoAOMT       -----------------------------------EISQIPVLDGVTLCRRVY-------
ZeCCoAOMT        -----------------------------------EICQLPVGDGITLCRRIS-------
PcCCoAOMT        -----------------------------------EICMLPVGDGVTLCRRIS-------
MsCCoAOMT        -----------------------------------EICMLPVGDGITICRRIK-------
NtCCoAOMT        -----------------------------------EICQLPVGDGITLCRRIS-------
U5CX90           -----------------------------------EICQLPVGDGITLCRRVS-------
PotCCoAOMT       -----------------------------------EICMLPVGDGITLCRRIQ-------
VvCCoAOMT        -----------------------------------EICMLPVGDGITLCRRLS-------
SlCCoAOMT        -----------------------------------DIAHLPVGDGITFCRRVY-------
McCCoAOMT        -----------------------------------EIVHLPLGDGITFCRRLY-------
U5CZ55           -----------------------------------EISQIPVGDGVTLCRRLY-------
U5D229       358 AAAAPLEIFHSQIKLD-RSNATRTAKIPRNLSNTEEKKLYHGPGATQYVYSPLIGSMRLA
U5D520           -----------------------------------EISQIPVADGVTICRRLC-------
U5CZN4           -----------------------------------EISQIFIADGVTLCRRLY-------
U5D0E8           -----------------------------------EISQIFIAD---------------
CjCoOMT      345 SIIVAYS---------MMLMSG----KERTKKEWEDLLRKANFTSHQVIPIMAIE---
W1P9N8           ----------------------------------------------------------
Hv7OMT       384 SLIEVQP---------LSMMMLFNG--KVREEQNWHKIFLEAGFSHYKIHNVLGMR---
W1P041       346 TALEFQK---------VFLMAIYSPGSKRRTEDIFRRLSEAAGFRTLEIVLPGSF---Y
Cr4  OMT     353 SIIEVYP---------MAMVINFAA--KERTEEEWEHLIREAGFSGHKIFPMYDFR---
CrOMT2       342 SPIEVYP---------IDMMVFFTA--KERTEEEWATLFREAGFSGYKIFPMIDFR---
ObCVOMT      350 SLIEAYP---------MAMMSYFNA--KERTMNEWEKLISAAGFTSYKLTPAFGVR---
ObEOMT       352 -LIEAYP---------MAMMC-YFNA-KERTMSEWEKLIYDAGFKSYKLTPAFGVR--S
Mp8OMT       361 -VIEVFP---------MQMLA-IITG-KERSEEWGKLFFDAGFTNYKITRVLGLR--S
RhOOMT1      362 -LIEVYP---------MLMMA-LVGG-KERNEKEWAKLFTDAGFSDYKITPISGLR--S
RhOOMT2      361 -LIEVYP---------MLMMA-LVRG-QERNEKEWAKLFTDAGFSDYKITPILGLR--S
PsHMM        354 SLIEVYP---------VVMLTMFLG--KERTKKEWEKLIYDAGFSRYKITPICGFK---
GeHI4   OMT  361 SLIEVFP---------LVMLTMFNG--KEREKKEWEKLISDAGFSSYKITPICGFK---
LjHI4   OMT  360 -LIEVFP---------LVMLT-MFNG-KEREKKEWEKLIYDAGFSSYKITPICGFK--S
MsI7OMT      346 SLIEIYP---------VNMACLNG---KERNEEEWKKLFIEAGFQHYKISPLTGFL---
GeD7OMT      352 -LIEVYP---------VNMAC--LNG-KERSEEEWKKLFIEAGFRDYKISPLTGFL--S
Mp4    OMT   337 FVIEAYP---------LIMMAVLARG-KERTYREWEYLLREAGFTKFVVKNINTVE---
Mp7OMTa      338 SVIEAYP---------VTMMATMFEG-RERTYVEWARIINEAGFRRHVVKNIKTLE---
Mp7OMTb      339 -VIEAYP---------VTMMANMFEG-RERTYVEWAHIINEAGFRRHVVKNIKTLE--S
AmmCOMT      351 -VVELYKKM-------IRMLIYTHGG-RERTAEEFQMLGKEAGFASSKFICGADLY--G
Cj9OMT       373 -VMEFHKINC------LLMMALNPGG-KERTTIEFDGLAKAAGFAETKFFPISQGL--H
Ms2    OMT   366 GVMEFYK---------NLMFI-TVGG-RERTEKQYEKLSKLSGFSKFQVACRAFNS--L
Cj6OMT       340 SVIEAYPY--------LDMML-NTGG-KERTEEEWKKLIHDAGYKGHKITQITAVQ---
Cj4    OMT   345 -VIEVFP---------ML---VNTGG-KERTKEVWEKIVKSAGFSGCKIRHIAAIQ--S
U5DBV9       347 SIIVAFP---------MVMMVQTGG--KERDEGEWAKLLHDAGFKKYEVVPIMAV---Y
Mp3    OMT   359 -IMECHK---------VIMLTVNPGG-KERTEKEFRTLALQAGFKRLVKVCAAFHT--C
RcPOMT       366 -VMEFHK---------LLMFTQNPGG-KERTKKEYEALALKSGFSRLEVVCSAYNS--W
ZmCOMT       359 -AIEFIK---------MIMLAHNPGG-KERYEREFRELAKGAGFSGFKATYIYANA--W
TaOMT2       351 -AIEFTK---------MIMLAHNPGG-RERYEREFEALAKGAGFAAMKTTYIYANA--W
AmmBMT       349 -IMEFSK---------AIMLAYVPGG-KERTEKEFESLAKRAGFKSFTKVCCAFNT--W
ZeCOMT       349 -VMEFCK---------VIMLAHNPGG-KERTEKEFEALAKGAGFKGFNKAACALNT--W
W1NLC7       353 -IIEFYK---------CIMLAHNPGG-KERTEKEFEALAKGAGFAGIKVVCCAYGS--C
CbIEMT       361 -VMEFLKTA-------ALMLAYNPGG-KERTEKEFQALAMASGFRGFKVASCAFNT--Y
At3  OMT     356 -LIELLKKL-------CIMLAHNPGG-KERTEKEFEALAKASGFKGIKVVCDAFGV--N
MsCOMT       358 -IMEFLKKV-------VIMLAHNPGG-KERTQKEFEDLAKGAGFQGFKVHCNAFNT--Y
Ca3  5  OMT  334 -IIEFSKNISN-----VMIVTQNSGG-KERTEKEFEALAKAAGFQGFQVFCNAFTI--Y
CaOMT2       334 -IIEFSKKICN-----VITVAHNPGG-KERTEKEFEALAKAAGFQGFQVFCNAFNT--Y
W1PG58           ---------------MIMLAPTNTG-KEKTAQEWSHVLCEA----------------
PitAEOMT     375 -VIEAFPR--------LVMVAHSSGG-KERTEKEWKRILLEGGFSRYNIIEIPALQ--S
W1P0L5       389 -VIEAFPE--------LVMIAHSSGG-KERTAEEWGKLLKDGGFRRFNIISIPTIQ--S
W1P0K5        94 -IIESFILLCGLH----LLMLALAPGG-KERTEKEWRALLSQGGFSKCNIISLPTLQ--A
W1P6Z4        94 -IIEAFPDE------LLMLALAPGG-KERTEKEWRTLLSQGGFSKCNIISLPTLQ--A
U5D1A9           ----------------------------------------------------------
U5CUU9           -----------------------------------HLKEDTSAFADS-----------
U5CZT3           ----------------------------------------------------------
W1P8Q1       341 SIIEAYPDPKE------MLMFAVTSGG-LERTEEEWRALLSKGGFSNCNIKPLPTLQ---
W1P633           ----------------------------------------------------------
W1P8Q7       352 -IIEAYPDPNE------MLMFAVTSGG-LERTEEEWRALLSKGGFSNCNIKPLPTLQ--S
W1NGT5           ----------------------------------------------------------
W1NP75        94 -IIEAYPQEH------LVMVTLSTGG-KERTKKEWRDVLSQGGFGIRKIVSLPALQ--F
W1P628           ----------------------------------------------------------
U5CKV5           ----------------LVMVT-LSTG-EKNGQRKSGEMY------------------
U5CKV5         1 ----------------------------------------------------------
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