

Consensus

1 10 20 30 40 50  
**MAVDEIEILSXT-XFSXXSSGSXAPSFPLXLLGLPALLEL-AAICANLTLALLFLXVVSA**  
 Zmlpa1 MPPSFPSPPLPEAVAA-TAHAALLALALLLLLRRAA  
 SbMRP MPSPFPSPPLPEAAA-AAHAALLALALLLLLRRAA  
 SiMRP MPPSFPSPPLPEAAA-AAHASLALALALLLLLRRAA  
 PglMRP  
 OsMRP MPHFPNPLPEAAA-AAHAALLALALLLLLRSA  
 GmMRP1b **MAVDEIEILSPT-FSS--SGSFETLWSAII LGLPLLEL-VAICANLTL SLLFLFVVSA**  
 GmMRP1a **MAVDEIEILSST-LFSSSSGSFELWSAII LGLPLLEL-VAICANLTL FIFLFLVVSA**  
 PvMRP1 **MAVDEIIGTSSPTISFSSSYSSGSFE SRWTAI LGLPWVEV-VAICANLTL FIVFVFLLA**  
 PvMRP2 MGVARFFHDV LGLPVLEL-ATICMNLTLVLLFLFVVSV  
 GmMRP2 MGVARFFHDV LGLPVLEL-ATICMNLTLVLLFLFVVSV  
 AthMRP5 MDFIEISLIFREHLPLLEL-CSVINLTLFVLFVFAVSA  
 AtABCC3 MDFLGS TTGSGT LAMLFSFSESILPLDS-RSFL LKPLFLRWL SGFLHS  
 AtABCC9 MFKPFGFAAETGSHLLTTQWLQGNLSLKERISIAMQVTF LA  
 AtABCC4 MWLSSSPWLSELSCSYSAVVEHTS SVPVP IQWLRFVLLSPCQRALFSAVDF  
 AtABCC1 MGFELDWYCKVPNGVWTKVDY-AFGAYTPCAIDSFVLGIS H

Consensus

60 70 80 90 100 110  
**RXLVXCVXSGLRFRGKRRGS---GNASPGC---XXETRXVR-IGAWFKLSLLSCFYVVL-**  
 Zmlpa1 **RALASRCASCLKAPRRRG---PAVVVGD--GAGGALAAATAGAWHRAVLASCAYAL-**  
 SbMRP **RSIASRCASCLKAPRRRG---PAVVV GAGAGAGGALAATSAGAWHRAVLASCAYAL-**  
 SiMRP **RALASRCASCLKAAPRRGP---AAAVAAG---GGTLAATAR-AWHRAVLASCAYAL-**  
 PglMRP  
 OsMRP **RALASRCASCLKTAPRR-----AAAVDGD-----GLAAAS SVGAWYRAALACCGYAL-**  
 GmMRP1b **RKVLVYCVGRGVRFGKENIT---GNASPGCVSVDLETRDVRRIETWFKLSVLSCLYVVL-**  
 GmMRP1a **RKVLVYCVWGGVRFGKENGT---GNASPGCVSVDLETRDIR-TIETWFKLSVLSCFYVVL-**  
 PvMRP1 **RRVVVYCVGGGVRFGKDDGT---GNASRGCD SVDLETRDVR-IGTWFKLSVLSCFYVVL-**  
 PvMRP2 **RRALVYQG-CFRFGKNGNS---GNASPICSVIDETRRGVR-IGLVFKLSVLSCFYVVL-**  
 GmMRP2 **RRVLVYGG-CFRFGKDGNSS---GNASPICSVIDETRRGVR-IGLVFKLSVLSCFYVVL-**  
 AthMRP5 **RQILVYCVRRGRDRLSKDDT---VSAASN--LSLERVNHVS-VGFGFNLSLLCCLYVVL-**  
 AtABCC3 **VLLLVLF FSWVRKKIRGDS---GVTE SLK-----DRRDFGFKSALFCSLALS LNLV-**  
 AtABCC9 **FLLIHLALKWFVVVRNRGS---NDVEEDLK---KQSITVKQSF SYNISLLCSVSIIG**  
 AtABCC4 **I FLLCFALHKLFSSPSSSEINGHAEIRKPLIGIRGRTPTRTTAWFKTTVAVTVLLSF**  
 AtABCC1 **L VLLILGLYRILWITDKHK-----VDKFC LRSKWF SYFLALLAAYATAE**

Consensus

120 130 140 150 160 170  
**-LVQVLVLFEGAXLGRGVS-----LXLLLXPAVQALAWAVLSFLALQCKFKAW**  
 Zmlpa1 **-LSQVAVLSYEVAVAGSRVVS-----ARALLLPAVQAVSWAAL LALALQARAVGW**  
 SbMRP **-LAQVAVLSYEVAVAGSRVA-----AGALLLPAVQAVSWAAL LALALQARAVGW**  
 SiMRP **-LAQVAALSYEVAVAGSRVS-----AGALLLPAVQAVAWAAL LVLALQARALGW**  
 PglMRP  
 OsMRP **-LAQVAALSYEVAVAGSHVA-----VEALLLPAVQALAWAAL LALAMQARAVGW**  
 GmMRP1b **-LVQVLVLFEGDGVALLIRGRD-LDVDLDLGLALLSVPLVQGLAWVLSFSALQCKFKAS**  
 GmMRP1a **-LVQVLVLFEGDGVALLIRGR---DLDDLGLALLSVPLVQGLAWVLSFSALQCKFKAC**  
 PvMRP1 **-LVQVLVLFADGFALFRER---DVDLDWGLALLSAPLAQGLAWIALSFSALQCKFKAL**  
 PvMRP2 **-FVHVLALGFEFGALIWGED-----DVDLSLLSVPAQCLAWVLSFWTLDCFKVVS**  
 GmMRP2 **-FVNVLALGFEFGALIWGEAN--GDADVDLSLLAVPAQGLAWVLSFSALYCKFKVS**  
 AthMRP5 **-GVQVLVLYVDGVKVRREVS-----DWFVLCFPAQGLAWVLSFLVHLKFKYS**  
 AtABCC3 **-LMSLSGFYWEYSGWL DNEQ-----LVSSLGFLLGMVSGVLSICLHRGRDCEH**  
 AtABCC9 **THCFI LLLLFERDSVSRCDSE-----SVSVFAEVSQFSWLFVSVVVKIRERRL**  
 AtABCC4 **CSVVLVLAFTGKRRTQRPN-----LIDPLFWL IHAVTHLM IAVLVLHQKRF A**  
 AtABCC1 **PLFRLVMRISVLDLDGACFP-----PYEAFMLVLEAFAWGSALVMTVVE TKTYI**

Consensus

180 190 200 210 220 230  
**ERFPALLRWWWVVSFVLCILCYVDGRXLWXXGSR--HLYXHMVANFASTPALGFLCL**  
 Zmlpa1 **ARFPALVR LWWWVSFALCVV IAYD DSRRL I GQGAR-AVDYAHMVANFASVPALGFLCL**  
 SbMRP **ARFPALVR LWWWVSFALCVV IAYD DSRRL I GDGAR-AVDYAHMVANFASVPALGFLCL**  
 SiMRP **ARFPALVR LWWWVSFALCVG IAYD DSRRL I RDEPR-TVDYAHMVANFASVPALGFLCL**  
 PglMRP **PRFPALVR LWWWVSFALCVG IAYD DSRRL VRDEPR-TVDYAHMVANFASVPALGFLCL**  
 OsMRP **GRFPVLR LWWWVSFVLCVGIAYDTRHLMGDDDDDEVDYAHMVANFASVPALGFLCL**  
 GmMRP1b **ERFPI LRLWWWMLFGICLCGLYVDGKGVWMEGSK--HLRSHMVANFTITPALAFGLCI**  
 GmMRP1a **ERFPV LRLVWLFVVFV ICLCGLYVDGRGVWMEGSK--HLRSHMVANFAVTPALAFGLCI**  
 PvMRP1 **ERFPI LRLVWVFLFV ICLCGLYVDGRGVWMEGSK--HLRSHMVANFAVTPALAFGLCI**  
 PvMRP2 **ERFPV LRLVWVFLCFV ICLCTLYVDGRGFWEENGSK--HLCSRAMSNVAVTPPLAFGLFV**  
 GmMRP2 **ERFPV LRLVWVFLSFV ICLCTLYVDGRGFWEENGSK--HLCSRAMSNVAVTPALAFGLCV**  
 AthMRP5 **EKLPLVLR IWWWFLAFS ICLCTMYVDGRRLAIEGWS--RCSHVMVANLAVTPALGFLCF**  
 AtABCC3 **KKAPFLRLRLWLVFYL VSCYSLVVD FVMYERRETVPVHL L VFDIVAF IAAVFLGYVAV**  
 AtABCC9 **VKFPWMLR SWWWLCSFII L SFS--FDAHFITAKHEP--LEFQDYADLTGLASLFL LA**  
 AtABCC4 **LNHPLSLR IYWI SFVLTSLFAVTGIFHFLSDAAT--SLRAEDVASF SFLPTAFL I**  
 AtABCC1 **HELRWYVRFAVIYALV GDMVLNLNLVSVKEYYGSFKLYLYISEVAVQVAFGTLLEVYF**

Consensus  
 Zmlpa1  
 SbMRP  
 SiMRP  
 PglMRP  
 OsMRP  
 GmMRP1b  
 GmMRP1a  
 PvMRP1  
 PvMRP2  
 GmMRP2  
 AthMRP5  
 AtABCC3  
 AtABCC9  
 AtABCC4  
 AtABCC1

240 250 260 270 280 290  
 VAVRGSTC -- I E V T X X S - G L H E P L L V G - - - - - E E P G C L R V T P Y X D A G L F S L A T L S  
 V G V M G S T C L E L E F T I E D G N G L H E P L L L G - R Q R R E A E E E L G C L R V T P Y A D A G I L S L A T L S  
 V G V M G S T C L E L E F M E D E N G L H E P L L L G - R Q R R E A E E E L G C L R V T P Y S D A G I L S L A T L S  
 V G V M G S T C L E F E F T I D E N G V H E P L L L G - R Q R R E A E E E P G C L R V T P Y A D A G I L S L A T L S  
 V G V M G S T C L E F E F T I T G D D G V H E P L L L G R Q R R E A E E E P G C L R V T P Y A D A G I L S L A T L S  
 V G V M G S T C V E L E F T I D D D S S V H E P L L L G - G Q R R D A D E E P G C L R V T P Y G D A G I V S L A T L S  
 V A I R G V T C - - I K V F R N S - E E H Q P L L V E - - - - - E E P G C L K V T P Y T D A G L F S L A T L S  
 V A I R G V T C - - I K V F R S S - E E Q Q P L L V D - - - - - E D P G C L K V T P Y S D A G L F S L A I L S  
 V A I R G V T C - - I K V C R I S - E E Q Q P L L V E - - - - - E E P G C L K V T P Y N D A G L F S L A T L S  
 V A V R G T C - - I I V C R N S - D L Q E P L L V E - - - - - E E P G C L R V T P Y L D A G L F S L A T L S  
 V A I R G T C - - I R V C G N S - D L Q E P L L V D - - - - - E E P G C L K V T P Y R D A G L F S L A T L S  
 L A V R G V S C - - I Q V T R S S S D L Q E P L L V E - - - - - E E A A C L K V T P Y S T A G L V S L I T L S  
 L K K D R S N S - - N G V L E P L L N G G D S R V G G D S V E L N K T N G S G E A T P Y S R A G I L S L L T F S  
 V S I R G K T C - - F H L L E S S - C N T E P L L L G - - - - - D Q T E Q N K K D S Y S S S S P Y G N A T L F Q R I T F S  
 A S V R G I T C L V T A E T I N S P T K P S D A V S V E - - - - - K S D N V S L Y A S A S V F S K F T W L  
 P N L D P Y P C Y T P V G T I E N S E D Y E Y E E L P C - - - - - G E N I C P E R H A N L F D S I F F S

Consensus  
 Zmlpa1  
 SbMRP  
 SiMRP  
 PglMRP  
 OsMRP  
 GmMRP1b  
 GmMRP1a  
 PvMRP1  
 PvMRP2  
 GmMRP2  
 AthMRP5  
 AtABCC3  
 AtABCC9  
 AtABCC4  
 AtABCC1

300 310 320 330 340  
 W L N P L L S I G A K R P L E L K D I P L L A P K D R A K X C Y K X L X S N W E R X K A E N - - P S R E P S L A W A  
 W L S P L L S V G A Q R P L E L A D I P L L A H K D R A K S C Y K A M S A H Y E R Q R L E Y - - P G R E P S L T W A  
 W L S P L L S V G A Q R P L E L A D I P L L A H K D R A K S C Y K V M S A H Y E R Q R L E H - - P G R E P S L T W A  
 W L S P L L S I G A Q R P L E L A D I P L L A H K D R A K S C Y K A M S A H Y E R Q R L E N - - P Y R E P S L T W A  
 W L S P L L S I G A Q R P L E L A D I P L L A H K D R A K S C Y K A M S A H Y E R Q R L E R - - P Y R E P S L T W A  
 W L S P L L S V G A Q R P L E L A D I P L M A H K D R A K S C Y K A M S S H Y E R Q R M E N - - P G S E P S L A W A  
 W L N P L L S I G A K R P L E L K D I P L V A A K D R S K T N Y K V L N S N W E R L K A E N - - C S E Q P S L A W A  
 W L N P L L S I G A K R P L E L K D I P L V A P K D R S K T N Y K V L N S N W E R L K A E N - - L S G Q P S L A W A  
 W L N P L L S I G A K R P L E L K D I P L V A P N D R S K T N Y K I L N S N W E K L K A E N - - T S R Q P S L A W A  
 W L N P L L S I G A K R P L E L K D I P L V A P R D R A K T S Y K I L N S N W E R L K A E N D N P S K H S S L A W A  
 W L N P L L S I G A K R P L E L K D I P L V A P R D R A K T S Y K V L N S N W E R L K A E N E N P S K Q P S L A W A  
 W L D P L L S A G S K R P L E L K D I P L L A P R D R A K S S Y K V L K S N W K R C K S E N - - P S K P P S L A R A  
 W M S P L I D I G N K K T L D L E D V P Q L H D T D S V V G L A P K F R S M L E S P D G G E R S G V T T F K L I K A  
 W I N P L F S L G Y K R P L E K D V P D I D V K D S A R F C S H A F D Q K L K T T K E K E - - G P G N A F F Y N S  
 W M N P L L S K G Y K S P L T L E Q V P T L S P E H K A E R L A L L F E S S W P K P S E N S - - - - - S H P I R T T  
 W L N P L M T L C S K R P L T E K D V W H L D T W D K T E T L M R S F Q K S W D K E L E K P - - - - - K P W L L R A

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 Zmlpa1  
 SbMRP  
 SiMRP  
 PglMRP  
 OsMRP  
 GmMRP1b  
 GmMRP1a  
 PvMRP1  
 PvMRP2  
 GmMRP2  
 AthMRP5  
 AtABCC3  
 AtABCC9  
 AtABCC4  
 AtABCC1

350 360 370 380 390 400  
 I I L K S F W K E A A V N A X F A G V N T L V S Y V G P Y L I S Y F V D Y L S G K E - X F P H E G Y I L A G I F F V A  
 I I L K S F W R E A A V N G T F A A V N T I V S Y V G P Y L I S Y F V D Y L S G N I - A F P H E G Y I L A S I F F V A  
 I I L K S F W R E A A V N G T F A A V N T I V S Y V G P Y L I S Y F V D Y L S G N I - A F P H E G Y I L A S I F F V A  
 I I L K S F W R E A A V N G A F A A V N T I V S Y V G P Y L I S Y F V D Y L S G N I - A F P H E G Y I L A S I F F V A  
 I I L K S F W R E A A I N G A F A A V N T I V S Y V G P Y L I S Y F V D Y L S G K I - E F P H E G Y I L A S V F F V A  
 L I L K S F W K E A A C N A V F A G V T T L V S Y V G P Y M I S Y F V D Y L V G K E - I F P H E G Y V L A G V F F V A  
 L I L K S F W K E A A C N A V F A G V T T L V S Y V G P Y M I S Y F V D Y L V G K E - I F P H E G Y V L A G V F F V A  
 I I L K S F W K E A A C N A I F A G V T T L V S Y V G P Y M I S Y F V D F L V G K E - I F P H E G Y V L A G I F F S A  
 I I L T S F W K E A A L N A I F A G L N T L V S Y V G P Y M I S Y F V D Y L S G K E - T F P H E G Y A L A G I F F A A  
 I I L K S F W K D A A L N A I F A G M N T L V S Y V G P Y M I S Y F V D Y L G G K E - T F P H E G Y I L A G I F F V A  
 I I M K S F W K E A A C N A V F A G L N T L V S Y V G P Y L I S Y F V D Y L G G K E - I F P H E G Y V L A G I F F T S  
 L Y F T A Q W E I L V T A F F A F I Y T V A S Y V G P A L I D T F V Q Y L N G R R - Q Y N F H E G Y V L V I T F F A A  
 L I R Y V W R K A A I N A V F A V N A S T A Y I G P Y L I N D F V E F L S E K Q S L N H G Y L L A G L L A T A  
 L L R C F W K E I L F T A I L A I V R L G V M Y V G P V L I Q S F V D F T S G K R - S S P W C G Y L V L I L L V A  
 L N N S L G G R F W W G G F W K I G N D C S Q F V G P L L L N E L L K S M Q L N E - - P A W I G Y I Y A I S I F V G

Consensus  
 Zmlpa1  
 SbMRP  
 SiMRP  
 PglMRP  
 OsMRP  
 GmMRP1b  
 GmMRP1a  
 PvMRP1  
 PvMRP2  
 GmMRP2  
 AthMRP5  
 AtABCC3  
 AtABCC9  
 AtABCC4  
 AtABCC1

410 420 430 440 450 460  
 K L V E T L T T R Q W Y L G V D I L G M H V R S A L T A M V Y R K G L R L S S S X R Q S H T S G E I V N Y M A V D V  
 K L L E T L T A R Q W Y L G V D I M G I H V K S G L T A M V Y R K G L R L S N A S R Q S H T S G E I V N Y M A V D V  
 K L L E T L T A R Q W Y L G V D I M G I H V K S G L T A M V Y R K G L R L S N A S R Q S H T S G E I V N Y M A V D V  
 K L L E T L T A R Q W Y L G V D I M G I H V K S G L T A M V Y R K G L R L S N S R Q S H T S G E I V N Y M A V D V  
 K L L E T L T A R Q W Y L G V D V M G I H V K S G L T A M V Y R K G L R L S N S S R Q S H T S G E I V N Y M A V D V  
 K L V E T F T T R Q W Y L G V D I L G M H V R S A L T A M V Y R K G L R I S S L A K Q S H T S G E V V N Y M A I D V  
 K L V E T F T T R Q W Y L G V D I L G M H V R S A L T A M V Y R K G L R I S S L A K Q S H T S G E V V N Y M A I D V  
 K L V E T F T T R Q W Y I G V D I M G M H V R S A L T A M V Y R K G L R I S S L A K Q S H T S G E I V N Y M A I D V  
 K L V E T V T T R Q W Y L G V D I L G M H V R S A L T A M V Y R K G L R L S S S A K Q S H T S G E I V N Y M A V D V  
 K L V E T V T T R Q W Y L G V D I L G M H V R S A L T A M V Y R K G L R L S S S A K Q S H T S G E I V N Y M A V D V  
 K L I E T V T T R Q W Y M G V D I L G M H V R S A L T A M V Y R K G L K L S S I A K Q N H T S G E I V N Y M A V D V  
 K I V E C L S Q R F W F F R L Q K V C I R M R S A L V A M I Y E K G L T L S C Q S K Q G R T S G E I I N F M T V D A  
 K I V E T V T Q R Q W I F G A R Q L G L R L R A A L I S H I Y C K G L V L S S Q S R Q S H T S G E I I N Y M S V D V  
 K F V E V L T T H C F N F D S Q K L G M L I R S T L I T A L Y K K G L K L T G S A R Q N H G V C I V N Y M A V D A  
 V V L G V L C E A C Y F Q N V M R V C Y R L R S A L I A A V F R K S L R L T N E G R K K F Q T C K I T N L M T T D A

470 480 490 500 510 520

Consensus QRVGDYSWYLDHIWMLPLQIXLALAILYKNVGIASVATLVATXJSIAVTVPVAKLQEH

Zmlpa1 QRVGDYAWYFHDIWMLPLQII LALAILYKNVGIAMVSTLVATVLSTIAASVPVAKLQEH

SbMRP QRVGDYAWYFHDIWMLPLQII LALAILYKNVGIAMVSTLVATLSTIAASVPVAKLQEH

SiMRP QRVGDYAWYFHDIWMLPLQII LALAILYKNVGIAMVSTLIATVLSTIAASVPVAKLQEH

PgIMRP QRVGDYAWYFHDIWMLPLQII LALAILYKNVGIAMVSTLVATVLSTIAASVPVAKLQEH

OsMRP QRVGDYAWYFHDIWMLPLQII LALAILYKNVGIAMVSTLVATVLSTIAASVPVAKLQEH

GmMRP1b QRVGDYSWYLDHMMMLPLQIVLALAILYKNVGIAAIATLIATIIISIVTVPIARVQEN

GmMRP1a QRVGDYSWYLDHMMMLPLQIVLALAILYKNVGIASIAATLIATIIISIAVTVPIARIQEN

PvMRP1 QRVGDYSWYLDHMMMLPLQIVLALAILYKNIGIASVATLIATIIISIVTVPVARIQED

PvMRP2 QRVGDFSWYLDHLWMLPMQIVLALLILYKNIGIASIATLVATVVSIVTVIPVAKIQED

GmMRP2 QRVGDYSWYLDHMMMLPMQIVLALLILYKNVGIASVATLIATIIISIVTVPVARVQED

AthMRP5 QRIGDYSWYLDHIWMLPMQIVLALAILYKSVGIAAVATLVATIISILVTIPLAKVQED

AtABCC3 ERIGNFSWYMDHPMMVLQVGLALWILYRNGLGASIAALVATIIVMLINFPFGRMQER

AtABCC9 QRITDFIWYVNNIWMLPIQIFSAIYTLQKHLGLGALAAVTTLMVMAcNYPLTRLQRN

AtABCC4 QQLSDMMLCLFAIWLMPICVTVALVLLYGS LGASVITAVIGLTGVFVFI LLGTQRNG

AtABCC1 ESLQQICQSLFTMWSAPFRITIVALVLLYQQLGVASIIIGALFLVLMFPIQTVIISKTKQ

530 540 550 560 570 580

Consensus YQDKLMAAKDERMRKTSECLRNMRILKIQAWEDRYRLKLEEMRXVEFKWLRKALYSQA

Zmlpa1 YQDKLMAASKDERMRKTSECLRNMRILKIQAWEDRYRLQLEEMRNVECRWLRWALYSQA

SbMRP YQDKLMAASKDERMRKTSECLRNMRILKIQAWEDRYRLQLEEMRNVECRWLRWALYSQA

SiMRP YQDKLMAASKDERMRKTSECLRNMRILKIQAWEDRYRLQLEEMRNVECRWLRWALYSQA

PgIMRP YQDKLMAASKDERMRKTSECLRNMRILKIQAWEDRYRLQLEEMRNVECRWLRWALYSQA

OsMRP YQDKLMAASKDERMRKTSECLRNMRILKIQAWEDRYRLKLEEMRNVECRWLRWALYSQA

GmMRP1b YQDKLMAAKDERMRKTSECLRNMRILKIQAWEDRYRVLKLEEMRGVEFKWLRKALYSQA

GmMRP1a YQDKLMAAKDERMRKTSECLRNMRILKIQAWEDRYRVLKLEEMRGVEFKWLRKALYSQA

PvMRP1 YQDKLMAAKDERMRKTSECLRNMRILKIQAWEDRYRVLKLEEMRGVEFKWLRKALYSQA

PvMRP2 YQDKLMAAKDERMRKTSECLRNMRILKIQAWEDRYRVLKLEEMRGVEFKWLRKALYSQA

GmMRP2 YQDKLMAAKDERMRKTSECLRNMRILKIQAWEDRYRVLKLEEMRGVEFKWLRKALYSQA

AthMRP5 YQDKLMTAKDERMRKTSECLRNMRVILKIQAWEDRYRVLKLEEMREVEYGLRKAALYSQA

AtABCC3 FQEKLMKAKDSRMKSTSEILRNMRILKIQGWEKFLSKIFDLRKSIEGWLKIKVYNSA

AtABCC9 YQSDIMNAKDDRMKATSEILKNMKILKIQAWDNQFLNKVKTLRKKIYDCLWKSURLQA

AtABCC4 YQFSLMGNRDSRMKATNEMLNMRVILKIQAWENHFNKRILKFRDMIEGWLKIFLYSIA

AtABCC1 LTKEGLRQTDKRIGLMNEVLAAMDVTVKCYAWENSFQSKVQTVRDDLSWFRKAQLLSA

590 600 610 620 630

Consensus FXTFVFWSSPIFVSVVTFEGTCILLGGQLTAGGVL SALATFRILQEP LRFNFPDLISMMA

Zmlpa1 AVTFVFWSSPIFVAVITFEGTCILLGGQLTAGGVL SALATFRILQEP LRFNFPDLISMMA

SbMRP AVTFVFWSSPIFVAVITFEGTCILLGGQLTAGGVL SALATFRILQEP LRFNFPDLISMMA

SiMRP AVTFVFWSSPIFVSVITFEGTCILLGGQLTAGGVL SALATFRILQEP LRFNFPDLISMMA

PgIMRP AVTFVFWSSPIFVAVITFEGTCILLGGQLTAGGVL SALATFRILQEP LRFNFPDLISMMA

OsMRP AVTFVFWSSPIFVAVITFEGTCILLGGE LTAGGVL SALATFRILQEP LRFNFPDLISMIA

GmMRP1b FITFIFWSSPIFVSAVTFEATSILLGGQLTAGGVL SALATFRILQEP LRFNFPDLVSTMA

GmMRP1a FITFIFWSSPIFVSAVTFEATSILLGGQLTAGGVL SALATFRILQEP LRFNFPDLVSTMA

PvMRP1 FITFMFWSSPIFVSAVTFEATSILLGGQLTAGGVL SALATFRILQEP LRFNFPDLVSTMA

PvMRP2 FITFIFWSSPIFVSAVTFEATCILLGGQLTAGGVL SALATFRILQEP LRFNFPDLVSTMA

GmMRP2 CITFMFWSSPIFVSAVTFEATSILLGGQLTAGGVL SALATFRILQEP LRFNFPDLVSTMA

AthMRP5 EFTFIFWSSPIFVAAVTFEATSIFLGTQLTAGGVL SALATFRILQEP LRFNFPDLVSMMA

AtABCC3 VTSFVFWGAPTLVSMSTFCACILLGPILESCKILSALATFRILQEP IYNLPDTISMIV

AtABCC9 FTTFILLGAPSLISVVTFTCMIMGVKLTAGAVLSALATFQMLQSPIFGLPDLISALV

AtABCC4 GNTIVLWSTPVLISALTEATLALGVKLDAGTVFTTTTIFKILQEP IRTFPQSMISLS

AtABCC1 FNMFIILNSIPVLVTVVSFCVFSILLGGDLTPARAFTSLSLSFVSLRFPFLMFLPNITIQMV

640 650 660 670 680 690

Consensus QTKVSLDRLSHFLOQEEELQEDATIVVPOGSTNKAIEIKDGVFSWDPSSS-RPTLSGIH

Zmlpa1 QTRVSLDRLSHFLOQEEELPD DATIINVPOQSTDKAVDIKDGAFSWNPYTL-TPTLSDIH

SbMRP QTRVSLDRLSHFLOQEEELPD DATIINVPOQSTDKAIDIKNGAFSWNPYSL-TPTLSDIQ

SiMRP QTRVSLDRLSHFLOQEEELPD DATIINVPOQSTDKAIDIKDGTFSWNPYSP-TPTLSGIH

PgIMRP QTRVSLDRLSHFLOQEEELPD DATIINVPOQSTDKAIDIKDGTFSWNPYSP-TPTLSDIH

OsMRP QTRVSLDRLSHFLOQEEELPD DATITVPHGSTDKAININDATFSWNPSSP-TPTLSGIN

GmMRP1b QTKVSLDRLSGFLLEELQEDATIVLPQGITNIAIEIKDGEIFCWDPPSSSFRPTLSGSI

GmMRP1a QTKVSLDRLSGFLLEELQEDATIVLPQGITNIAIEIKGGVFCWDPPSSSFRPTLSGSI

PvMRP1 QTKVSLDRLSGFLLEELQEDATIVAMPQGITNIAIEIKDGVFCWDPLSS-RPTLSGSI

PvMRP2 QTRVSLDRITTYLQDEELQEDATIVMPRGISNMAIEIRDGVFCWATS LP-RPTLSGIH

GmMRP2 QTKVSLDRISAFLOQEEELQEDATIVLPQGITNIAIEIKDGVFCWDSSLP-RPTLSGIH

AthMRP5 QTKVSLDRISGFLQEEELQEDATIVIPRGLSNIAIEIKDGVFCWDPFSS-RPTLSGIQ

AtABCC3 QTKVSLDRLASYLCLDNLQPDIVERLPKGSDDVAVEVINSTLSWDVSSS-NPTLKDIN

AtABCC9 QSKVSLDRISAYLQQSETEKDAVEYCSKDHTELSVEIENCAFSSWEPSS-RPTLDDIE

AtABCC4 QAMISLGRIDSYMMSKFELSEDAVERALGCDGNTAVEVRDCSFSWDD EDN-EPALSDIN

AtABCC1 NANVSLNRLEEVLSTEEFRVLLPNPPIEPGQP--AITSIRNGYFSWDSKAD-RPTLSNIN

700 710 720 730 740 750

Consensus LKVERGMRVAVCGXVSGKSSLLSSILGEIPKLSG-EVRVCGSAAYVPOSAWIQSGNI

Zmlpa1 LSVVRGMRVAVCGVIGSGKSSLLSSILGEIPKLCG-HVRI SGTAAAYVPCAWIQSGNI

SbMRP LSVVRGMRVAVCGVIGSGKSSLLSSILGEIPKLCG-HVRI SGTAAAYVPCAWIQSGNI

SiMRP LSVVRSMRVAVCGVIGSGKSSLLSSILGEIPKLCG-HVRI SGTAAAYVPCAWIQSGNI

PglMRP LSVVRGMRVAVCGVIGSGKSSLLSSILGEIPKLCG-HVRI SGTAAAYVPCAWIQSGNI

OsMRP LSVVRGMRVAVCGVIGSGKSSLLSSILGEIPKLCG-QVRI SGTAAAYVPCAWIQSGNI

GmMRP1b MKVERMRVAVCGMVGSGKSSFLSCLLGEIPKLSG-EVRVCGSSAYVSOAWIQSGTI

GmMRP1a MKVERMRVAVCGMVGSGKSSFLSCLLGEIPKISG-EVRVCGSSAYVSOAWIQSGTI

PvMRP1 MKVEKMRVAVCGMVGSGKSSFLSCLLGEIPKISG-EVRVCGSSAYVSOAWIQSGTI

PvMRP2 MKVEKGMNVAVCGMVGSGKSSFLSCLLGEIPKLSG-EVKVCGSSAYVSOAWIQSGNI

GmMRP2 VKVERGMTVAVCGMVGSGKSSFLSCLLGEIPKLSG-EVKMCGSSAYVSOAWIQSGNI

AthMRP5 MKVEKGMNVAVCGTVGSGKSSFLSCLLGEIPKISG-EVRI CGTTGYVSOAWIQSGNI

AtABCC3 FKVFPGMKVAVCGTVGSGKSSLLSSILGEVPKVSG-SLKVCGTKAYMAQSPWIQSGKI

AtABCC9 LKVKSGMKVAVCGAVGSGKSSLLSSILGEIQKIKG-TVRVSGKQAYVPOSPWILSCTI

AtABCC4 FKVKKGE LTAIVGTVGSGLSSLLASVLGEMHRISG-QVRVCGSTGYVAQTSWIENGTV

AtABCC1 LDITPLGSLVAVVGS TEGKTSLSAMLGE LPARSDATVTLRGSVAYVPOVSWIFNATV

760 770 780 790 800 810

Consensus EENILFGSPMDKXKYKRVJHACSLKKDLELXSHGDOTIIGDRGINLGGQKQRVQLAR

Zmlpa1 EENILFGSQMDRQRKYRVI AACCLKKDLELLQYGDQTVIGDRGINLGGQKQRVQLAR

SbMRP EENILFGSPMDRQRKYRVI AACCLKKDLELLQYGDQTVIGDRGINLGGQKQRVQLAR

SiMRP EENILFGSPMDRQRKYRVI AACCLKKDLELLQYGDQTVIGDRGINLGGQKQRVQLAR

PglMRP EENILFGSPMDRQRKYRVI AACCLKKDLELLQYGDQTVIGDRGINLGGQKQRVQLAR

OsMRP EENILFGSPMDKXKYKRVIEACSLKKDLELLQYGDQTVIGDRGINLGGQKQRVQLAR

GmMRP1b EENILFGSPMDKAKYKRVIEACSLKKDLELLF SHGDOTIIGDRGINLGGQKQRVQLAR

GmMRP1a EENILFGSPMDKAKYKRVIEACSLKKDLELLF SHGDLTIIGDRGINLGGQKQRVQLAR

PvMRP1 EENILFGSPMDKAKYKRVIEACSLKKDLELLF SHGDOTIIGDRGINLGGQKQRVQLAR

PvMRP2 EENILFGT PMDKAKYKRVIEACSLKKDLELLF SHGDOTIIGDRGINLGGQKQRVQLAR

GmMRP2 EENILFGT PMDKAKYKRVIEACSLKKDLELLF SHGDOTIIGDRGINLGGQKQRVQLAR

AthMRP5 EENILFGSPMEKTKYKRVIEACSLKKDLELLF SHGDOTIIGDRGINLGGQKQRVQLAR

AtABCC3 EDNIFLFGKPMERERYDKVLEACSLSKDLELLF SHGDOTIIGDRGINLGGQKQRVQLAR

AtABCC9 RDNIFLFGSMYSEKYE R TVKACALIKDFELF SNGDLTEIGDRGINLGGQKQRVQLAR

AtABCC4 QDNIFLFGLPVVR EKYKRVIEACSLSKDLELLF SHGDOTIIGDRGINLGGQKQRVQLAR

AtABCC1 RDNIFLFGAPFDQEKYERVIDVTALQH DLELLP GGDTEIGDRGINLGGQKQRVSMAR

820 830 840 850 860 870

Consensus ALYQDAD IYLLDDPPFSAVDAHTGSELFREYILTALADKTVIYVTHQVEFLPAADLILV

Zmlpa1 ALYQDAD IYLLDDPPFSAVDAHTGSELFREYILTALADKTVIYVTHQVEFLPAADLILV

SbMRP ALYQDAD IYLLDDPPFSAVDAHTGSELFREYILTALADKTVIYVTHQVEFLPAADLILV

SiMRP ALYQDAD IYLLDDPPFSAVDAHTGSELFREYILTALADKTVIYVTHQVEFLPAADLILV

PglMRP ALYQDSD IYLLDDPPFSAVDAHTGSELFREYILTALADKTVIYVTHQVEFLPAADLILV

OsMRP ALYQDAD IYLLDDPPFSAVDAHTGSELFREYILTALADKTVIYVTHQVEFLPAADLILV

GmMRP1b ALYQDAD IYLLDDPPFSAVDAHTGSDLFREYILTALADKTVIFVTHQVEFLPAADLILV

GmMRP1a ALYQDAD IYLLDDPPFSAVDAHTGSDLFREYILTALADKTVIYVTHQVEFLPAADLILV

PvMRP1 ALYQDAD IYLLDDPPFSAVDAHTGSDLFREYILTALADKTVIYVTHQVEFLPAADLILV

PvMRP2 ALYQDAE IYLLDDPPFSAVDAHTGSELFREYVLTALADKTVIFVTHQVEFLPSADMILV

GmMRP2 ALYQDAD IYLLDDPPFSAVDAHTGSELFREYVLTALADKTVIFVTHQVEFLPAADMIMV

AthMRP5 ALYQDAD IYLLDDPPFSAVDAHTGSDLFREYILTALADKTVIYVTHQVEFLPAADLILV

AtABCC3 ALYQDAD IYLLDDPPFSAVDAHTGSELFREYILTALADKTVIYVTHQVEFLPAADLILV

AtABCC9 AVYQNAD IYLLDDPPFSAVDAHTGSELFREYILTALADKTVIYVTHQVEFLPAADLILV

AtABCC4 AVYQEC D IYLLDDPPFSAVDAHTGSDIFKCCVRGALKGT VLVTHQVDFLHNVDCTLV

AtABCC1 AVYSNS D VCI LDDPLSALDAHVGGQVFEKCIKRELLGQTIRVLTNQLHFLSQVDKILL

880 890 900 910 920

Consensus LKXGHI IQAGKYDDLLOAGTDFNALVSAH XEATEAMDIPEDS -DSD - - - -XVSSXMX

Zmlpa1 LKDGHI IQAGKYDDLLOAGTDFNALVSAH KEATEAMDIPEDS -DSD - - - -TVSS -IP

SbMRP LKDGHI IQAGKYDDLLOAGTDFNALVSAH KEATEAMDIPEDS -DCD - - - -TVSS -IP

SiMRP LKDGHI IQAGKYDDLLOAGTDFNALVSAH KEATEAMDIPEDS -DCD - - - -TVSS SIP

PglMRP LKDGHI IQAGKYDDLLOAGTDFNALVSAH KEATEAMDIPEDS -DCD - - - -TVSS SIP

OsMRP LKDGHI IQAGKYDDLLOAGTDFNALVSAH KEATEAMDIPEDS -DEF - - - -TVSS -VP

GmMRP1b LKEGCI IQSGKYDDLLOAGTDFN TLVSAH HEATEAMDIP THS SEESD ENLSLEASVM T

GmMRP1a LKEGCI IQSGKYDDLLOAGTDFN TLVSAH HEATEAMDIP THS SEESD ENLSLEACVM T

PvMRP1 LREGCI IQAGKYDDLLOAGTDFN ILVSAH HEATEAMDIP THS SEESD ENLSLEASVM T

PvMRP2 LKEGHI IQAGKYDDLLOAGTDFK TLVSAH HEATEAMDIP NHSS ESD ENVLDEASIMK

GmMRP2 LKEGHI IQAGKYDDLLOAGTDFK TLVSAH HEATEAMDIP NHSS ESD ENVLDDT IMT

AthMRP5 LKEGRI IQSGKYDDLLOAGTDFKALVSAH HEATEAMDIP SPSS ESD ENPIRDS LVLH

AtABCC3 MKDGRISQAGKYNDI LNSGTFMEL IGAHQEALAVVDS - - - - -VDANSVS

AtABCC9 MQNGRVMQAGKFEEL LKQNI GFEVLVGAHNEALDS ILS IEKS - - - - -S

AtABCC4 MRDGIKIVESGKYDELVSSCLDFGELVAHE TSMELVEAGADS - - - - -AAVAT

AtABCC1 VHEGTVKE ECTYEE LCHSCPLFQR L MENAGKVEDYSEENGEA - - - - -

930 940 950 960 970 980

Consensus **S**KR**S**X**P**S**A**N**D**I**D**S**L**A**K**E**V**Q**E**X**G**S**P**S**D**Q**K**G**I**K**E**K**K**K**K**-**X**K**R**X**R**K**K**Q**L**V**Q**E**E**E**R**E**R**E**R**G**R**V**S**M

Zmlpa1 N**K**R**L**T**P**S**I**S**N**I**D**N**L**K**N**K**M**C**E**N**G**Q**P**S**N**T**R**G**I**K**E**K**K**K**K**-**E**E**R**K**K**K**R**T**V**Q**E**E**E**E**R**E**R**G**K**V**S**S

SbMRP N**K**R**L**T**P**S**I**S**N**I**D**N**L**K**N**K**V**C**E**N**G**Q**P**S**N**A**R**G**I**K**E**K**K**K**K**-**E**E**R**K**K**K**R**T**V**Q**E**E**E**E**R**E**R**G**R**V**S**S

SiMRP N**K**R**L**T**P**S**I**S**N**I**D**N**L**K**N**K**V**H**E**N**G**Q**P**S**K**T**R**G**I**K**E**K**K**K**K**N**-**E**E**R**K**K**K**R**T**V**Q**E**E**E**R**E**R**G**R**V**S**L

PglMRP N**K**R**L**T**P**S**I**S**N**I**D**N**L**K**N**K**V**E**N**G**Q**P**S**N**T**R**G**I**K**E**K**K**K**K**N**-**E**E**R**K**K**K**R**T**V**Q**E**E**E**E**R**E**R**G**R**V**S**L

OsMRP I**K**R**L**T**P**S**V**S**N**I**D**N**L**K**N**K**V**S**N**N**E**K**P**S**S**T**R**G**I**K**E**K**K**K**K**K**P**E**E**R**K**K**R**S**V**Q**E**E**E**E**R**E**R**G**R**V**S**L

GmMRP1b **S**K**K**S**I**C**S**A**N**D**I**D**S**L**A**K**E**V**Q**E**G**S**S**I**S**D**Q**K**A**I**K**E**K**K**K**K**A**K**R**S**R**K**K**Q**L**V**Q**E**E**E**R**I**R**G**R**V**S**M

GmMRP1a **S**K**K**S**I**C**S**A**N**D**I**D**S**L**A**K**E**V**Q**E**G**S**S**I**S**D**Q**K**A**I**K**E**K**K**K**-**A**K**R**S**R**K**K**Q**L**V**Q**E**E**E**R**I**R**G**R**V**S**M

PvMRP1 **S**K**K**S**I**C**S**A**N**D**I**D**S**L**A**K**E**V**Q**E**G**A**S**T**S**A**Q**K**A**I**K**E**K**K**K**-**A**K**R**L**R**K**K**Q**L**V**Q**E**E**E**R**I**R**G**R**V**S**M

PvMRP2 **S**K**T**S**I**S**S**A**K**D**I**D**S**L**A**K**E**V**Q**E**G**S**-****S**D**Q**K**A**I**K**E**K**K**K**-**A**K**R**S**R**K**K**Q**L**V**Q**E**E**E**R**V**R**G**R**V**S**M

GmMRP2 **S**K**T**S**I**S**S**A**N**D**I**E**S**L**A**K**E**V**Q**E**G**S**-****S**D**Q**K**V**I**K**E**K**K**K**-**A**K**R**S**R**K**K**Q**L**V**Q**E**E**E**R**V**R**G**R**V**S**M

AthMRP5 N**P**K**S**D**V**F**E**N**D**I**E**T**L**A**K**E**V**Q**E**G**G**S**A**S**D**L**K**A**I**K**E**K**K**K**K**A**K**R**S**R**K**K**Q**L**V**Q**E**E**E**R**V**K**G**V**S**M

AtABCC3 **E**K**S**A**L**G**Q**E**N**V**I**V**K**D**A**I**A**V**D**E**K**L**E**S**Q**D**L**K**-****-****-****-**N**D**K**L**E**S**V**E**P**Q**R**Q**I**I**Q**E**E**E**E**R**E**K**G**S**V**A**L

AtABCC9 **R**N**F**K**E**G**S**K**D**T**A**S**I**A**E**S**L**Q**T**H**C**D**S**E**H**N**I**S**T**E**N**K**K**K**-****-****-****-****-**E**A**K**L**V**Q**D**E**E**T**E**K**G**V**I**G**K

AtABCC4 **S**P**R**T**P**T**S**P**H**A**S**S**P**R**T**S**M**E**S**P**H**L**S**D**L**N**D**E**H**I**K**S**F**L**G**S**H**I**V**E**D**G**S**K**I**K**E**E**E**R**E**T**T**G**V**S**L**

AtABCC1 **-****-****-****-****-**E**V**D**Q**T**S**V**K**P**V**E**N**G**N**A**N**N**L**Q**K**D**G**I**E**T**K**N**S****-****-****-**K**E**G**N**S**V**L**V**K**R**E**E**R**E**T**T**G**V**S**M**

990 1,000 1,010 1,020 1,030 1,040

Consensus **K**V**V**L**S**Y**M**G**A**A**Y**K**G**X**L**I**P**L**I**L**A**Q**T**L**F**Q**X**L**Q**I**A**S**N**W**M**M**A**W**A**N**P**O**T**E**G**D**A**P**K**V**D**P**X**V**L**L**L**

Zmlpa1 **K**V**V**L**S**Y**M**G**E**A**Y**K**G**T**L**I**P**L**I**L**A**Q**T**M**F**Q**V**L**Q**I**A**S**N**W**M**M**A**W**A**N**P**O**T**E**G**D**A**P**K**T**D**S**V**V**L**L**V**

SbMRP **K**V**V**L**S**Y**M**G**E**A**Y**K**G**T**L**I**P**L**I**L**A**Q**T**M**F**Q**V**L**Q**I**A**S**N**W**M**M**A**W**A**N**P**O**T**E**G**D**A**P**K**T**D**S**V**V**L**L**V**

SiMRP **N**V**V**L**S**Y**M**G**E**A**Y**K**G**T**L**I**P**L**I**L**A**Q**T**M**F**Q**V**L**Q**I**A**S**N**W**M**M**A**W**A**N**P**O**T**E**G**D**A**P**K**T**D**S**V**V**L**L**V**

PglMRP **N**V**V**L**S**Y**M**G**E**A**Y**K**G**T**L**I**P**L**I**L**A**Q**T**M**F**Q**V**L**Q**I**A**S**N**W**M**M**A**W**A**N**P**O**T**E**G**D**A**P**K**T**D**S**V**V**L**L**V**

OsMRP **Q**V**V**L**S**Y**M**G**E**A**Y**K**G**T**L**I**P**L**I**L**A**Q**T**M**F**Q**V**L**Q**I**A**S**N**W**M**M**A**W**A**N**P**O**T**E**G**D**A**P**K**T**D**S**V**V**L**L**V**

GmMRP1b **K**V**V**L**S**Y**M**A**A**A**Y**K**G**L**L**I**P**L**I**I**I**A**Q**T**L**F**Q**F**L**Q**I**A**S**N**W**M**M**A**W**A**N**P**O**T**E**G**D**L**P**K**V**T**P**S**V**L**L**L

GmMRP1a **K**V**V**L**S**Y**M**A**A**A**Y**K**G**L**L**I**P**L**I**I**I**A**Q**T**L**F**Q**F**L**Q**I**A**S**N**W**M**M**A**W**A**N**P**O**T**E**G**D**L**P**K**V**T**P**S**V**L**L**L

PvMRP1 **K**V**V**L**S**Y**M**A**A**A**Y**K**G**L**L**I**P**L**I**I**I**A**Q**A**L**F**Q**F**L**Q**I**A**S**N**W**M**M**A**W**A**N**P**O**T**E**G**D**L**P**K**V**T**P**S**V**L**L**L

PvMRP2 **M**V**V**W**S**Y**M**A**A**A**Y**K**G**L**L**I**P**L**I**I**I**A**Q**T**L**F**Q**F**L**Q**I**S**S**W**M**M**A**W**A**N**P**O**T**E**G**D**Q**P**K**V**T**P**T**V**L**L**L**

GmMRP2 **K**V**V**L**S**Y**M**A**A**A**Y**K**G**L**L**I**P**L**I**I**I**A**Q**T**L**F**Q**F**L**Q**I**A**S**N**W**M**M**A**W**A**N**P**O**T**E**K**G**D**Q**P**K**V**T**P**T**V**L**L**L**

AthMRP5 **K**V**V**L**S**Y**M**G**A**A**Y**K**G**A**L**I**P**L**I**L**I**A**Q**A**A**F**Q**F**L**Q**I**A**S**N**W**M**M**A**W**A**N**P**O**T**E**G**D**E**S**K**V**D**P**I**T**L**L**I

AtABCC3 **D**V**V**W**K**Y**I**T**L**A**Y**G**G**A**L**V**P**F**I**L**L**G**Q**V**L**F**Q**L**Q**I**G**S**N**Y**M**A**W**A**T**P**V**S**E**D**V**Q**A**P**V**K**L**S**T**L**M**I

AtABCC9 **E**V**V**L**A**Y**L**T**T**V**K**G**G**L**V**P**F**I**L**A**Q**S**C**F**Q**M**L**Q**I**A**S**N**Y**M**A**W**T**A**P**P**T**A**E**S**I**P**K**L**G**M**G**R**I**L**L**

AtABCC4 **G**V**Y**K**Q**Y**C**T**E**A**Y**G**W**G**I**V**L**V**L**F**F**S**L**T**W**G**S**L**M**A**S**D**Y**W**L**A**Y**E**T****-****-**S**A**K**N**A**I**S**F**D**A**S**V**F**I**L

AtABCC1 **K**V**L**E**R**Y**Q**N**A**L**G**G**A**W**V**M**M**L**V**I**C**Y**V**L**T**Q**V**F**R**V**S**S**T**W**L**S**E**W**T****-****-**D**S**G**T**P**K**T**H**G**P**L**F**Y**N**I

1,050 1,060 1,070 1,080 1,090 1,100

Consensus **V**Y**M**A**L**A**F**G**S**S**L**F**X**F**V**R**S**X**L**V**A**T**F**G**L**A**A**A**Q**L**F**L**K**M**L**R**S**V**F**R**A**P**M**S**F**F**D**S**T**P**A**G**R**I**L**N**R**

Zmlpa1 **V**Y**M**S**L**A**F**G**S**S**L**F**V**F**M**R**S**L**V**A**T**F**G**L**A**A**A**Q**L**F**I**K**M**L**R**C**V**F**R**A**P**M**S**F**F**D**T**P**S**G**R**I**L**N**R**

SbMRP **V**Y**M**S**L**A**F**G**S**S**L**F**V**F**V**R**S**L**V**A**T**F**G**L**A**A**A**Q**L**F**I**K**M**L**R**C**V**F**R**A**P**M**S**F**F**D**T**P**S**G**R**I**L**N**R**

SiMRP **V**Y**M**S**L**A**F**G**S**S**L**F**V**F**V**R**S**L**V**A**T**F**G**L**A**A**A**Q**L**F**V**K**M**L**R**C**V**F**R**A**P**M**S**F**F**D**T**P**A**G**R**I**L**N**R**

PglMRP **V**Y**M**S**L**A**F**G**S**S**L**F**V**F**V**R**S**L**V**A**T**F**G**L**A**A**A**Q**L**F**V**K**M**L**R**C**V**F**R**A**P**M**S**F**F**D**T**P**A**G**R**I**L**N**R**

OsMRP **V**Y**M**S**L**A**F**G**S**S**L**F**V**F**V**R**S**L**V**A**T**F**G**L**A**A**A**Q**L**F**V**K**M**L**R**C**V**F**R**A**P**M**S**F**F**D**T**P**S**G**R**I**L**N**R**

GmMRP1b **V**Y**M**A**L**A**F**G**S**S**W**F**I**F**V**R**A**V**L**V**A**T**F**G**L**A**A**A**Q**L**F**L**K**M**L**R**S**V**F**H**A**P**M**S**F**F**D**S**T**P**A**G**R**I**L**N**R**

GmMRP1a **V**Y**M**A**L**A**F**G**S**S**W**F**I**F**V**R**A**V**L**V**A**T**F**G**L**A**A**A**Q**L**F**L**K**M**L**R**S**V**F**H**A**P**M**S**F**F**D**S**T**P**A**G**R**I**L**N**R**

PvMRP1 **V**Y**M**A**L**A**F**G**S**S**W**F**I**F**L**R**S**V**L**V**A**T**F**G**L**A**A**A**Q**L**F**L**K**L**I**R**S**V**F**H**A**P**M**S**F**F**D**S**T**P**A**G**R**I**L**N**R**

PvMRP2 **V**Y**M**A**L**A**F**G**S**S**W**F**I**F**L**K**S**V**L**V**A**T**F**G**L**E**A**S**Q**L**F**F**N**M**L**R**S**I**F**H**A**P**M**S**F**F**D**S**T**P**A**G**R**I**L**N**R**

GmMRP2 **V**Y**M**A**L**A**F**G**S**S**W**F**I**F**V**R**A**V**L**V**A**T**F**G**L**A**A**A**Q**L**F**F**N**M**L**R**S**I**F**H**S**P**M**S**F**F**D**S**T**P**A**G**R**I**L**N**R**

AthMRP5 **V**Y**T**A**L**A**F**G**S**S**W**F**I**F**V**R**A**A**L**V**A**T**F**G**L**A**A**A**Q**L**F**L**N**M**L**R**S**V**F**R**A**P**M**S**F**F**D**S**T**P**A**G**R**I**L**N**R**

AtABCC3 **V**Y**M**A**L**A**F**G**S**S**V**C**I**L**R**A**T**L**V**T**A**G**Y**K**T**A**T**E**L**F**H**K**M**H**H**C**I**F**R**S**P**M**S**F**F**D**S**T**P**S**G**R**I**M**S**R

AtABCC9 **V**Y**A**L**A**A**G**S**S**I**C**V**L**A**R**T**I**L**V**A**I**G**G**I**S**T**A**E**T**F**F**S**R**M**L**C**S**I**F**R**A**P**M**S**F**F**D**S**T**P**T**G**R**I**L**N**R**

AtABCC4 **G**Y**V**I**A**L**V**S**I**V**L**V**S**I**R**S**Y**Y**V**T**H**L**G**L**K**T**A**Q**I**F**F**R**Q**I**L**N**S**I**L**H**A**P**M**S**F**F**D**T**P**S**G**R**I**L**S**R

AtABCC1 **V**Y**A**L**L**S**F**G**Q**V**S**V**T**L**I**N**S**Y**W**L**I**M**S**S**L**Y**A**A**K**K**M**H**D**A**M**L**G**S**I**L**R**A**P**M**V**F**F**Q**T**N**P**L**G**R**I**I**N**R

1,110 1,120 1,130 1,140 1,150 1,160

Consensus **V**S**I**D**Q**S**V**V**D**L**D**I**P**F**R**L**G**G**F**A**S**T**T**I**Q**L**L**G**I**V**A**V**M**S**K**V**T**W**Q**V**L**L**L**V**V**P**M**A**V**A**C**X**W**M**O**R**Y**Y

Zmlpa1 **V**S**I**D**Q**S**V**V**D**L**D**I**A**F**R**L**G**G**F**A**S**T**T**I**Q**L**L**G**I**V**A**V**M**S**K**V**T**W**Q**V**L**I**L**I**V**P**M**A**V**A**C**M**W**M**O**R**Y**Y

SbMRP **V**S**I**D**Q**S**V**V**D**L**D**I**A**F**R**L**G**G**F**A**S**T**T**I**Q**L**L**G**I**V**A**V**M**S**K**V**T**W**Q**V**L**I**L**I**V**P**M**A**I**A**C**M**W**M**O**R**Y**Y

SiMRP **V**S**I**D**Q**S**V**V**D**L**D**I**A**F**R**L**G**G**F**A**S**T**T**I**Q**L**L**G**I**V**A**V**M**S**K**V**T**W**Q**V**L**I**L**I**V**P**M**A**I**A**C**M**W**M**O**R**Y**Y

PglMRP **V**S**I**D**Q**S**V**V**D**L**D**I**A**F**R**L**G**G**F**A**S**T**T**I**Q**L**L**G**I**V**A**V**M**S**K**V**T**W**Q**V**L**I**L**I**V**P**M**A**I**A**C**M**W**M**O**R**Y**Y

OsMRP **V**S**I**D**Q**S**V**V**D**L**D**I**A**F**R**L**G**G**F**A**S**T**T**I**Q**L**L**G**I**V**A**V**M**S**K**V**T**W**Q**V**L**I**L**I**V**P**M**A**V**A**C**M**W**M**O**R**Y**Y

GmMRP1b **V**S**I**D**Q**S**V**V**D**L**D**I**P**F**R**L**G**G**F**A**S**T**T**I**Q**L**I**G**I**V**G**V**M**T**E**V**T**W**Q**V**L**L**L**V**V**P**M**A**V**A**C**L**W**M**O**K**Y**Y

GmMRP1a **V**S**I**D**Q**S**V**V**D**L**D**I**P**F**R**L**G**G**F**A**S**T**T**I**Q**L**I**G**I**V**G**V**M**T**E**V**T**W**Q**V**L**L**L**V**V**P**M**A**V**A**C**L**W**M**O**K**Y**Y

PvMRP1 **V**S**I**D**Q**S**V**V**D**L**D**I**P**F**R**L**G**G**F**A**S**T**T**I**Q**L**I**G**I**V**A**V**M**T**E**V**T**W**Q**V**L**L**L**V**V**P**M**A**V**A**C**L**W**M**O**K**Y**Y

PvMRP2 **V**S**I**D**Q**T**V**V**D**L**D**I**P**F**R**L**G**G**F**A**S**T**T**I**Q**L**I**G**I**V**A**V**M**T**D**V**T**W**Q**I**L**L**L**V**P**M**A**I**I**C**L**W**M**O**K**Y**Y**

GmMRP2 **V**S**I**D**Q**S**V**V**D**L**D**I**P**F**R**L**G**G**F**A**S**T**T**I**Q**L**I**G**I**V**A**V**M**T**D**V**T**W**Q**V**L**L**L**V**V**P**L**A**I**I**C**L**W**M**O**K**Y**Y

AthMRP5 **V**S**I**D**Q**S**V**V**D**L**D**I**P**F**R**L**G**G**F**A**S**T**T**I**Q**L**C**G**I**V**A**V**M**T**N**V**T**W**Q**V**F**L**L**V**V**P**V**A**V**A**C**F**W**M**O**K**Y**Y

AtABCC3 **A**S**T**D**Q**S**A**V**D**L**E**L**P**Y**Q**F**G**S**V**A**I**T**V**I**Q**L**I**G**I**G**V**M**S**Q**V**S**L**V**L**V**F**I**P**V**V**A**S**I**W**Y**O**R**Y**Y

AtABCC9 **A**S**T**D**Q**S**V**L**D**I**E**M**A**V**K**L**C**W**C**A**F**S**I**I**Q**I**V**G**T**I**F**V**M**S**Q**V**A**W**Q**V**C**V**I**F**I**P**V**A**V**A**C**V**F**Y**O**R**Y**Y

AtABCC4 **A**S**T**D**Q**T**N**V**D**I**L**I**P**F**M**L**G**L**V**V**S**M**Y**T**T**L**L**S**I**F**I**V**T**C**Q**Y**A**W**P**T**A**F**F**V**I**P**L**G**W**L**N**I**W**Y**R**N**Y**Y

AtABCC1 **F**A**K**D**M**G**D**I**D**R**T**V**A**V**F**V**N**M**F**M**G**S**I**A**Q**L**L**S**T**V**I**L**I**G**I**V**S**T**L**S**L**W**A**I**M**P**L**L**V**V**F**Y**G**A**L**Y**Y**

Consensus  
 Zmlpa1  
 SbMRP  
 SiMRP  
 PglMRP  
 OsMRP  
 GmMRP1b  
 GmMRP1a  
 PvMRP1  
 PvMRP2  
 GmMRP2  
 AthMRP5  
 AtABCC3  
 AtABCC9  
 AtABCC4  
 AtABCC1

1,170 1,180 1,190 1,200 1,210  
 XASSRELXRIVSXQKSPVILHFLFES IAGAATIRGFGQEKRFMKRNLYLLDCFARPLFFS  
 IASSRELTRILSMQKSPVILHFLFES IAGAATIRGFGQEKRFMKRNLYLLDCFARPLFFS  
 IASSRELTRILSMQKSPVILHFLFES IAGAATIRGFGQEKRFMKRNLYLLDCFARPLFFS  
 IASSRELTRILSMQKSPVILHFLFES IAGAATIRGFGQEKRFMKRNLYLLDCFARPLFFS  
 IASSRELTRILSMQKSPVILHFLFES IAGAATIRGFGQEKRFMKRNLYLLDCFARPLFFS  
 MASSRELVRIVSIQKSPVILHFLFES IAGASTIRGFGQEKRFMKRNLYLLDCFARPLFFS  
 MASSRELVRIVSIQKSPVILHFLFES IAGASTIRGFGQEKRFMKRNLYLLDCFARPLFFS  
 MASSRELVRIVSIQKSPVILHFLFES IAGASTIRGFGQEKRFMKRNLYLLDCFARPLFFS  
 MASSRELVRIVSIQKSPVILHFLFES IAGASTIRGFGQEKRFMKRNLYLLDCFARPLFFS  
 MASSRELVRIVSIQKSPVILHFLFES IAGASTIRGFGQEKRFMKRNLYLLDCFARPLFFS  
 MASSRELVRIVSIQKSPVILHFLFES IAGASTIRGFGQEKRFMKRNLYLLDCFARPLFFS  
 IAAARELSRLVGVCKAPLTIQHFSSETISGATIRSFSSQEFRRFRSDNMRISDGYSRPKFY  
 TPTARELSRMSGVERAPILHFAESLAGATIRAFDQRDRFISSNLVLIDSHSRPWFH  
 LASSRELTMRDSTIKAPTIHFSESLAGVMTIRSRKQELFRQENVKRVNDNLRMDLH  
 QNTSREIKRMDSTTRSPVYAQFGEALNGLSSTRAYKAYDRMAEINGRSMDDNNIRFTLV

Consensus  
 Zmlpa1  
 SbMRP  
 SiMRP  
 PglMRP  
 OsMRP  
 GmMRP1b  
 GmMRP1a  
 PvMRP1  
 PvMRP2  
 GmMRP2  
 AthMRP5  
 AtABCC3  
 AtABCC9  
 AtABCC4  
 AtABCC1

1,220 1,230 1,240 1,250 1,260 1,270  
 SLAAIEWLCLRMELLSTFVFAFCMVLVLS --- FPPGTIDPSMAGLAVTYGLNLNARL  
 SLAAIEWLCLRMELLSTFVFAFCMAI LVS --- FPPGTIEPSMAGLAVTYGLNLNARM  
 SLAAIEWLCLRMELLSTFVFAFCMAI LVS --- FPPGTIEPSMAGLAVTYGLNLNARM  
 SLAAIEWLCLRMELLSTFVFAFCMAI LVS --- FPPGTIEPSMAGLAVTYGLNLNARM  
 SLAAIEWLCLRMELLSTFVFAFCMAI LVS --- FPPGTIEPSMAGLAVTYGLNLNARM  
 SLAAIEWLCLRMELLSTFVFAFCMVLVLS --- FPPGTIDPSMAGLAVTYGLNLNARL  
 SLAAIEWLCLRMELLSTFVFAFCMVLVLS --- FPPGTIDPSMAGLAVTYGLNLNARL  
 SLAAIEWLCLRMELLSTFVFAFCMVLVLS --- FPPGTIDPSMAGLAVTYGLNLNARL  
 SLAAIEWLCLRMELLSTFVFAFCMVLVLS --- FPPGTIDPSMAGLAVTYGLNLNARL  
 SLAAIEWLCLRMELLSTFVFAFCMVLVLS --- FPPGTIDPSMAGLAVTYGLNLNARL  
 SLAAIEWLCLRMELLSTFVFAFCMVLVLS --- LPHGSDPSMAGLAVTYGLNLNARL  
 SLAAIEWLCLRMELLSTFVFAFCMVLVLS --- LPHGSDPSMAGLAVTYGLNLNARL  
 TAGAMEWLCFRLDMLSLTFVFAFCMVLVLS --- IPTGVIDPSMAGLAVTYGLNLNARL  
 VASAMEWL SFRNL LSHFVFAFSLVLLVIT --- LPEGVINPSIAGLGVTYGLNLNARL  
 NNGSNIEWLGFRL ELVGSWVLCI SALFMVL --- LPSNVIRPENVGLSLSYGLNLNARL  
 NMAANRWLGIRLEVLGGLMWWLTASLAVMQNGKAANQAYASTMGLLLSYALSI TSSLL

Consensus  
 Zmlpa1  
 SbMRP  
 SiMRP  
 PglMRP  
 OsMRP  
 GmMRP1b  
 GmMRP1a  
 PvMRP1  
 PvMRP2  
 GmMRP2  
 AthMRP5  
 AtABCC3  
 AtABCC9  
 AtABCC4  
 AtABCC1

1,280 1,290 1,300 1,310 1,320 1,330  
 SRWILSFCKLENKIIISVERIYQYSQIPSEAPLVIEBRSRPPSSWPENGTIELIDLKVRYS  
 SRWILSFCKLENRIISVERIYQYCRLPSEAPLIEENCRPPSSWPENGTIELIDLKVRYS  
 SRWILSFCKLENRIISVERIYQYCKLPSEAPLIEENCRPPSSWPHNGSIELIDLKVRYS  
 SRWILSFCKLENRIISVERIYQYCKLPSEAPLVIEENCRPPSSWPENGTIELIDLKVRYS  
 SRWILSFCKLENRIISVERIYQYCKLPSEAPLVIEENCRPPSSWPENGTIELIDLKVRYS  
 SRWILSFCKLENRIISVERIYQYCKLPSEAPLIEENSRPPSSWPENGTIELIDLKVRYS  
 SRWILSFCKLENKIIISIERIYQYSQIPSEAPTIEEDSRPPSSWPENGTIELIDLKVRYS  
 SRWILSFCKLENKIIISIERIYQYSQIPSEAPTIEEDSRPPSSWPENGTIELIDLKVRYS  
 SRWILSFCKLENKIIISIERIYQYSQIPSEAPAVIEEDSRPPSSWPE SGTIQLIDLKVRYS  
 SRWILSFCKLENKIIISIERIYQYSQIPSEAPAIVEEDSRPPSSWPENGTIQLIDLKVRYS  
 SRWILSFCKLENKIIISIERIYQYSQIPSEAPAIVEEDSRPPSSWPATGTIELIDLKVRYS  
 AWLITWTLGNLENKIIISVERIYQYASVPSPEPLVIEENSRPEQSWPSRCEVEIRIDLKVRYS  
 ATVITWNIICNAENKMIISVERIYQYKLPSEAPLVIEEDSRPPSSWPHNGSIELIDLKVRYS  
 FFAIYMSGFVENKMIISVERIKQFTDIPSESEWERKETLPPSNWPFHCNVHLEIDLKVRYS  
 TAVLRLASLAENSLNSVERIVGNYIETIPSEAPLVIEENSRPPSGWPS SCSIKFEDVVLRY

Consensus  
 Zmlpa1  
 SbMRP  
 SiMRP  
 PglMRP  
 OsMRP  
 GmMRP1b  
 GmMRP1a  
 PvMRP1  
 PvMRP2  
 GmMRP2  
 AthMRP5  
 AtABCC3  
 AtABCC9  
 AtABCC4  
 AtABCC1

1,340 1,350 1,360 1,370 1,380 1,390  
 KENLPLVLHGVSCFPPGGKKIGIVGRTGSGKSTLIQALFRLIEPTGGKIIIDNIDISA  
 KDDLPLVLHGVSCFPPGGKKIGIVGRTGSGKSTLIQALFRLIEPTGGKIIIDNIDISA  
 KDDLPLVLHGVSCFPPGGKKIGIVGRTGSGKSTLIQALFRLIEPTGGKIIIDNIDISA  
 KDDLPLVLHGVSCIFPPGGKIVGRTGSGKSTLIQALFRLIEPTGGKIIIDNIDISA  
 KDDLPLVLHGVSCIFPPGGKKIGIVGRTGSGKSTLIQALFRLIEPTGGKIIIDNIDISA  
 KENLPMVLHGVTCFPPGGKKIGIVGRTGSGKSTLIQALFRLIEPASCSLIDNINISE  
 KENLPLVLHGVTCFPPGGKKIGIVGRTGSGKSTLIQALFRLIEPTSGCSLIDNINISE  
 KENLPLVLHGVTCFPPGGKKIGIVGRTGSGKSTLIQALFRLIEPTSGCSLIDNINISE  
 KENLPMVLHGVSCIFPPGGKKIGIVGRTGSGKSTLIQALFRLIEPASCSLIDNINISE  
 KENLPMVLHGVSCIFPPGGKKIGIVGRTGSGKSTLIQALFRLIEPASCSLIDNINISE  
 AENLPTVLHGVSCVFPGGKKIGIVGRTGSGKSTLIQALFRLIEPTAGKIIIDNIDISA  
 APHMPLVLRGITCTFKGGLRTGIVGRTGSGKSTLIQALFRLIEPASCSLIDNINISE  
 AEFHPAVLKNITCEFPGGKKIGIVGRTGSGKSTLIQALFRLIEPASCSLIDNINISE  
 RPNTPVLVLCITLDIKGGEKIVGRTGSGKSTLIQALFRLIEPASCSLIDNINISE  
 RPELPPVLHGVSFILSPMDKIVGRTGAGKSSLLNALFRIVELEKGRILIDEDCIGR

1,400 1,410 1,420 1,430 1,440 1,450

Consensus IGLHDLRSRLSIIPQDPTLFEFGTIRXNLDPLLEEHSDKEIWEALDKCQLGEVIRSKEEK

Zmlpa1 IGLHDLRSRLSIIPQDPTLFEFGTIRMNLDPLLEECTDQEIWEALEKCCQLGEVIRSKEEK

SbMRP IGLHDLRSRLSIIPQDPTLFEFGTIRMNLDPLLEECADQEIWEALEKCCQLGEVIRSKEEK

SiMRP IGLHDLRSRLSIIPQDPTLFEFGTIRMNLDPLLEERADHEIWEALEKCCQLGEVIRSKEEK

PglMRP IGLHDLRSRLSIIPQDPTLFEFGTIRMNLDPLLEERADHEIWEALEKCCQLGEVIRSKEEK

OsMRP IGLHDLRSRLSIIPQDPTLFEFGTIRMNLDPLLEECTDQEIWEALEKCCQLGEVIRSKDEK

GmMRP1b IGLHDLRSRLSIIPQDPTLFEFGTIRGNLDPLLEEHSDKEIWEALDKSOLGEVIRKGGQQ

GmMRP1a IGLHDLRSRLSIIPQDPTLFEFGTIRGNLDPLLEEHSDKEIWEALDKSOLGEVIRKGGQQ

PvMRP1 IGLHDLRGLHLSIIPQDPTLFEFGTIRGNLDPLLEEHSDKEIWEALDKSOLGEVIRKGGQQ

PvMRP2 IGLHDLRSRLSIIPQDPTLFEFGTIRGNLDPLLEEHSDKEIWEALDKSOLSQIIRERTERK

GmMRP2 IGLHDLRSRLSIIPQDPTLFEFGTIRGNLDPLLEEHSDKEIWEALDKSOLGDIIRERTERK

AthMRP5 IGLHDLRSRLGIIPQDPTLFEFGTIRANLDPLLEEHSDDKIWEALDKSOLGDMVVRGKDLK

AtABCC3 IGLHDLRLRLSIIPQDPTLFEFGTMRSNLDPLLEEYTDQEIWEALDKCQLGDEVIRKKEQK

AtABCC9 IGLHDLRSRLGIIPQDPALEFDGTRNLNLDPLAQYTDHEIWEALDKCQLGDMVIRAKDER

AtABCC4 LGLHDLRSRFGIIPQEPVLEFGTIVRSNLDPTLQYSDHEIWKSLERCCQLKDMVATKPEK

AtABCC1 FGLMDLRKVLGIIPQAPVLEFGTIVRNLDPFSEHNDADLWESLIERAHLKDTTIRNPLG

1,460 1,470 1,480 1,490 1,500

Consensus LDSPVLENGDNWSVGQRQLVALGRALLKQSKILVLDDEATASVDTATDNLIQKIRSEF

Zmlpa1 LDSPVLENGDNWSVGQRQLVALGRALLKQAKILVLDDEATASVDTATDNLIQKIRSEF

SbMRP LDSPVLENGDNWSVGQRQLVALGRALLKQAKILVLDDEATASVDTATDNLIQKIRSEF

SiMRP LDSPVLENGDNWSVGQRQLVALGRALLKQAKILVLDDEATASVDTATDNLIQKIRSEF

PglMRP LDSPVLENGDNWSVGQRQLVALGRALLKQAKILVLDDEATASVDTATDNLIQKIRSEF

OsMRP LDSPVLENGDNWSVGQRQLVALGRALLKQAKILVLDDEATASVDTATDNLIQKIRSEF

GmMRP1b LDTPVLENGDNWSVGQRQLVALGRALLQQRILVLDDEATASVDTATDNLIQKIRSEF

GmMRP1a LDTPVLENGDNWSVGQRQLVALGRALLQQRILVLDDEATASVDTATDNLIQKIRSEF

PvMRP1 LDTPVLENGDNWSVGQRQLVALGRALLQQRILVLDDEATASVDTATDNLIQKIRSEF

PvMRP2 LDMPVLENGDNWSVGQRQLVSLGRALLKQSKILVLDDEATASVDTATDNLIQKIRSEF

GmMRP2 LDMPVLENGDNWSVGQRQLVSLGRALLKQSKILVLDDEATASVDTATDNLIQKIRSEF

AthMRP5 LDSPVLENGDNWSVGQRQLVSLGRALLKQAKILVLDDEATASVDTATDNLIQKIRTEF

AtABCC3 LDSVSVLENGDNWSMGQRQLVCLGRVLLKRSKILVLDDEATASVDTATDNLIQKTLREHF

AtABCC9 LDATVMLENGENWSVGQRQLVCLGRVLLKKSNIIVLDDEATASVDSATDGVLIQKINQEF

AtABCC4 LDSLVVDNGENWSVGQRQLVCLGRVLLKRSRLLFLDEATASVDSQTDVAIQLIRDEF

AtABCC1 LDAEVTLEAGENFSVGQRQLVSLARALLRRSKILVLDDEATAAVDVRTDVLIQKTIREEF

1,510 1,520 1,530 1,540 1,550 1,560

Consensus KDCTVCTIAHRIPTVIDSDLVLVLSDGKVAEFDTPXRLLEDKSSMFLKLVTEYSSRSS

Zmlpa1 KDCTVCTIAHRIPTVIDSDLVLVLSDGKIAEFDTPQRLEDKSSMFIQLVSEYSTRSS

SbMRP KDCTVCTIAHRIPTVIDSDLVLVLSDGKIAEFDTPQKLEDKSSMFMQLVSEYSTRSS

SiMRP KDCTVCTIAHRIPTVIDSDLVLVLSDGKVAEFDTPQRLEDKSSMFMQLVSEYSTRSS

PglMRP KDCTVCTIAHRIPTVIDSDLVLVLSDGKVAEFDTPQRLEDKSSMFMQLVSEYSTRSS

OsMRP KDCTVCTIAHRIPTVIDSDLVLVLSDGKIAEFDTPQRLEDKSSMFMQLVSEYSTRSS

GmMRP1b KDCTVCTIAHRIPTVIDSDLVLVLSDGLVAEFDTPSRLEDKSSMFLKLVTEYSSRSS

GmMRP1a KECTVCTIAHRIPTVIDSDLVLVLSDGRVAEFNTPSRLEDKSSMFLKLVTEYSSRSS

PvMRP1 KDRCTVCTIAHRIPTVIDSDQLVLVLSDGRVAEFDTPSRLEDKSSMFLKLVTEYSSRSS

PvMRP2 RDCCTVCTIAHRIPTVIDSDLVMLVLSDGRVAEFDTPSRLEDKSSMFLKLVTEYSSRSS

GmMRP2 RDCCTVCTIAHRIPTVIDSDLVLVLSDGRVAEFDSPSRLEDKSSMFLKLVTEYSSRSS

AthMRP5 EDCCTVCTIAHRIPTVIDSDLVLVLSDGRVAEFDTPARLEDKSSMFLKLVTEYSSRSST

AtABCC3 SDCTVIITIAHRISVVIDSDMVLVLLSNGIIEEYDTPVRLLEDKSSSFSLVAVETSRSS

AtABCC9 KDRCTVCTIAHRIHTVIDSDLVLVLSDGRVAEFDSPAKLLQREDSFFSKLKEYSLRSN

AtABCC4 ASCTIISIAHRIPTVMDCGRVLVLDAGKAKAEFDSPARLLE-RPSLFAALVQEYALRSA

AtABCC1 KSCITMLIAHRLNTIIDCDKVLVLDSDGKVEFSSPENLLSNGESSESKMVQSTGTANA

1,570 1,580 1,590 1,600 1,610 1,620

Consensus GIPDF\*XLXXKRTREANGDSSQPLEGORKWQASSRWAAAAQFALAVSLTSSSHNDLQSL

Zmlpa1 CI

SbMRP CI\*

SiMRP CI\*

PglMRP CI

OsMRP CI\*

GmMRP1b GIPDF\*

GmMRP1a GIPDF\*

PvMRP1 GIPEF

PvMRP2 GIPDF\*

GmMRP2 GIPDF\*

AthMRP5 GIPEL

AtABCC3 SSFD

AtABCC9 HFAGSNDLLS

AtABCC4 GI

AtABCC1 EYLRSLITLLENKRTREANGDSSQPLEGORKWQASSRWAAAAQFALAVSLTSSSHNDLQSL

Consensus

1,630 1,640 1,650 1,660 1,670 1,680  
E I E D D N S I L K K T K D A V V T L R S V L E G K H D K E I E D S L N Q S D I S R E R W W P S L Y K M V E G L A V

- Zmlpa1
- SbMRP
- SiMRP
- PglMRP
- OsMRP
- GmMRP1b
- GmMRP1a
- PvMRP1
- PvMRP2
- GmMRP2
- AthMRP5
- AtABCC3
- AtABCC9
- AtABCC4
- AtABCC1

E I E D D N S I L K K T K D A V V T L R S V L E G K H D K E I E D S L N Q S D I S R E R W W P S L Y K M V E G L A V

Consensus

1,690 1,700 1,710  
M S R L A R N R M Q H P D Y N L E G K S F D W D N V E M

- Zmlpa1
- SbMRP
- SiMRP
- PglMRP
- OsMRP
- GmMRP1b
- GmMRP1a
- PvMRP1
- PvMRP2
- GmMRP2
- AthMRP5
- AtABCC3
- AtABCC9
- AtABCC4
- AtABCC1

M S R L A R N R M Q H P D Y N L E G K S F D W D N V E M