

## Supplemental File 1. MIF/MDL protein sequences used in this study.

>*A.\_thaliana\_AtMDL1*

MPTLNLFTNIPVDAVTCSDILKDATKAVAKIIGKPESYVMILLNSGVPIAFAGTEEPAAYGELIS  
IGGLGPGVNGKLSETISEILQIKLSIDSSRFYIKFYDSRPFFGYNGSTF

>*A.\_thaliana\_AtMDL2*

MPCLNLSTNVNLDGVDTSILSEASSTVAKIIGKPENYVMIVLKGSVPMSEFGGTEDPAAYGELVS  
IGGLNADVNNKLSAAVSAILETKLSVPKSRFFLKFYDTKGSFFGWNGATL

>*A.\_thaliana\_AtMDL3*

MPCLYITTNVNFDFGVNTDPFYSEVTKAVASIVGRPQNLVMVVLKGSVEIVFGGNKEAAAYAEIVS  
MGGITKQVKRELIATVGSILHTHFSIHPTRFIFKVFDINSLPLPSKL

>*B.\_distachyon\_XP\_003579042*

MPCLNVSTNVNLDGVDTSVAVLADASSAVATIIGKPEAYVMVVLKGSVPMSEFGGTQEPAAYGELVS  
IGGLSPDVNKKLSAGIAAILESKLSIPKSRFYLFKFDHDSKRSDFGWNGTTF

>*B.\_distachyon\_XP\_003577817*

MPQLSISTNVVPDAIVAADILKDCSRALAKIIGKPESYVMVVSINGCVPTSFAGSEEPAAAYGEIMS  
IGGLGPGVNGKLSAALAEILETKLSISRSRFYVKFDDVQGYNLGFNGSTF

>*C.\_reinhardtii\_XP\_001691775*

MPTLNIITNVAGDRVTTSDVLKALSKAVASSVGKPEQWVMASVTTDKPMIYGGTEEPCAFGYLMS  
IGSIGGDKNKKISAAICEVLTAKLGV PANRVYIQFSDAKASDVGWDGSTFA

>*G.\_max\_NP\_001238163*

MPTLDLFTNVPVDTVVASDILRDATAKAVAKIIGKPESYVMILLNNGVPIAFAGTEEPAAYGELIS  
IGGLGPSVNGKLSSTIAEILETKLYIDSSRFYIKFYDVQRSFFGFNGSTF

>*G.\_max\_NP\_001236304*

MPCLNLSTNVSLEGVDTSILAEATSSVASIIGKPEAYVMIVLKGSVPIAFGGNEQPAAYGELVS  
IGGLNPSVNKELSAAIASILETKLSVPKSRFFLKFYDTKGSNFGWNGSTF

>*G.\_max\_NP\_001237629*

MPCLNLSTNVNLDGIDTSSILSEATSTVASIIGKPEAYVMIVLKGSVPI SHGGSEQPAAYGELVS  
IGGLSPDVNKKLSAGIASILENKLSVPKSRFYLFKFDVSAFRTNSKM

>*G.\_max\_ACU19241*

MPCLYITTNLNLGVDTNVPVFSEATTAVSTIIGKPEKFMVILKSSVPI SFEGNKEPAAYAEIVS  
MGGISTEVKRKLIATIGTILQSNLSIPRTRFFLKFVDVSAFRTNSKM

>*H.\_sapiens\_HsMIF*

MPMFIVNTNVPRASVPDGFLELTQQLAQATGKPPQYIAVHVVPDQLMAFGGSSEPCALCSLHSI  
GKIGGAQNRSYSKLLCGLLAERLRISPDRVYINYYDMNAANVGWNNSTFA

>*H.\_sapiens\_HsDDT*

MPFLELDTNLPANRVPAGLEKRLCAAAASILGKPADRVNVTVRPGLAMALSGSTEPCAQLSISII  
GVVGTAEDNRSHSAHFFFLTKELALGQDRILIRFFPLESWQIGKIGTVMTF

>*H.\_vulgare*\_BAJ92045

MPCLNVSTNVNLEGVDTSAVLADASSTVATIIGKPEAYVMVVLKGSVPMFAGGTQEPAAYGELVS  
IGGLNPDVNKKLSAGIASILESKLSISKSRFYLFKFDHDSKRSDFGWNGTTF

>*H.\_vulgare*\_BAJ88384

MPQLSLSTNVVDAVVAADILRDCSRALARIIGKPEASYVTVSIDGSVPTSFAGSEEPAAAYGEIMS  
IGGLGPGVNGKLSAALADILEAKLSISPSRFYVKFDDVQGYNVGFNGTTF

>*L.\_japonicus*\_AFK35159

MPCLYIHTNINLDGVDTDSIFSEATTAVSTIIGKPEKFMVLLKGSVPISFECNKEPAAYAEIIS  
MGINSEVKKLIYITIGTILQSKLSIPRTRFFLKVFDTTLFRNKS

>*L.\_japonicus*\_AFK37368

MPCLNLSTNVNLDGVDTSSILSEATSTVATLIGKPEAYVMIVLKGSVPSVFGGTEQPAAYGELVS  
IGGLNPDVNKKLSAAIASILETKLSVPSRFYVKFYDTKGSNFGWNGSTF

>*L.\_japonicus*\_AFK37854

MPTLNLFTNIPVDAVVASDILRDATAKAVAKIIGKPEASYVMILLNGGVPIAFGGTEEPAAAYGELIS  
IGGLGPSVNGKLSSTIAEILQTKLYIDGSRFYIKFYDVQRSFFGFNGSTF

>*O.\_sativa*\_NP\_001058472

MPQLSLTTNVPVDAVVAADIKDCSKALARIIGKPEASYVMVVISGSPMSFAASEEPAAAYGELMS  
IGGIGPGVNGKLSAALAEILETKLSVSRFYVKFDDVKGFNLGFNGSTF

>*O.\_sativa*\_ABG22330

MPCLNVSTNVNLDGVDTSAVLADASKTVATIIGKPEAYVMVVLKGSVPMFAGGTQEPAAYGELVS  
IGGLNPDVNKKLSAGIASILESKLSIPKGRFYLFKFDHDSKRSDFGWNGTTF

>*P.\_patens*\_XP\_001768921

MPTLNIQTNVPLDGVVTSIDILKDASKAVAQILSKPESYVLISLRGGIPMSFGGTEEPAAAYGELIS  
IGGVGPD TNKRLSAAISDILKTKLSVPSNRFYIKFFDVKRS DMGWNGSTF

>*P.\_persica*\_XP\_007207503

MPCLYISTNVNLDGFDTDSIFSEATKAISSITGKPEDYVMVLLKGSVPISFGRSTSEPAAYGELV  
AMGGINKPVKRQLIATLGTIMEAKLSIPKTRFFLKVVDI STATGSKL

>*P.\_persica*\_XP\_007207497

MPCLNISANVSLEGVDTSSILSEATSTVAKIISKPEAYVMIVLKGSVPIAFGGTEQPAAYGELVS  
IGGLNPDVNKKLSAAIAAILETKLSVPSRFYVKFYDTKGSNFGWNGSTF

>*P.\_persica*\_XP\_007225890

MPTLNLFTNLPVDAVVASDILKDATAKAVSKIIGKPEASYVMILLNGSVPMFAGTEEPAAAYGELIS  
IGGIGPSVNGKLSSTIAEILETKLSIDSSRFYIKFYDVERPFFGFNGSTF

>*P.\_sitchensis*\_ABK23267

MPTLNLSTNVPVDSVSSDILKDASKSVARIIGKPESYVMVLLKGGVPMFLFGGSEEPAAAYGEVVS  
IGGLGPGVNGKLSAAIADILESKLSVDKSRFYIKFYDVEGSYFGFRGSTF

>*P.\_sitchensis*\_ABK23881

MPSLNISTNVPLEGLNTSEILSETSKSVAKIIGKPEAYVMVQLKGSVAISFGGTEEPAAAYGELVS  
IGGLGSDTNKKLSAAIATILDTKLKVPKSRFYIKFYDVKRSDFGWNGTTF

>*S.\_bicolor*\_XP\_002438947

MPTLNLRTNVPVDAVVAADILKDCSKAVARIIGKPESYVMVVSINGSVPMVSFAGSEEPAAAYGELVS  
IGGIGPGVNGKLSAAVAEVLETKLSVSRSRFYIKFDDVQRSNFGFNGSTF

>*S.\_bicolor*\_XP\_002441679

MPCLNVSTNVNLEGVDTSVILAEASKSVANIIGKPEAYVMVVLKGSVPMAFGGTQEPAAAYGELVS  
IGGLNPDVNKKLSAGIASILESKLSVPKSRFYILKFYDSKRSDFGWNGSTF

>*S.\_lycopersicum*\_XP\_004242799

MPTLNLFTNLPVDAVIASDILKDATKAVAKIIGKPESYVMILLNGGVPIAFAGTEAPAAYGELIS  
IGGLGPSVNGKLSSTIAEILQTKLSIDSDRFYIKFYDSRPFPGFNGSTF

>*S.\_lycopersicum*\_XP\_004249062

MPCLNISTNVNLEGVDTSSVLSEATSTVAKLIGKPEAYVMIVLKGSVPMAFGGTEQPAAYGELVS  
IGGLNADVNNKKLSAAIADILETKLSIPKSRFFLKFYDTKGSFFGWNGSTF

>*S.\_lycopersicum*\_XP\_004249685

MPCFNLSSTNVNLDGVDTSDFFSEATKAVSSIIGKPENFVMVVLKGSVDISFGGNKEPAAFAEIVS  
MGGINSVDKRRKLIATLGGICQNRFSIPRTRFFLKVYD'TMATKFSKL

>*S.\_moellendorffii*\_XP\_002961952

MPTLNLSTNVPADSISSDILKDASKAVSRIIGKPEQYVMIVLKDSVPMVSFSGGTEEPAAAYGEVIS  
IGGLGPSVNKELSEALSEILESKLSVPPSRFYIKFYDVQRSFFGWNGSTF

>*S.\_moellendorffii*\_XP\_002966661

MPTLNIISTNVPLDGVSTSDILKDASRTVARVLGKPESYVMIINGAVPISFGGSEEPAAAYGELVS  
IGAISPDSNKKLSKAI AELLQSKLAVPPNRFYIKFYDVKGSNFGWNGSTF

>*S.\_moellendorffii*\_XP\_002964007

MPILTISTNTSVDSSTSFYILQEATAAVARVLGKPESSMMVLLNDRVPILFGGSREAAAYGELVS  
IGAIAPDSNRKVSKALAGILESRLSVPPSRFYIKFYDVKGSNFGVNGSTY

>*S.\_moellendorffii*\_XP\_002983015

MPVLTIIHTNVVLLDGLMSVVSKLSHEVAKTTGKPESYVMVLLHGGVTLAFQGSHEAAAYGEL  
VSIGGLSPGVNQDLCKAIARVLEEELKVPPSRCYIKFYQEACVLRICVSVSLFLFDEILSF

>*V.\_carteri*\_XP\_002955179

MPTLNVITNVPICDRVTSSDVLKALSKAVSKSVGKPEQWVMCSLTDDKPMIYGGSEEPCAFYGFMS  
IGAIGGDVNQPNIRQISAAICEVLSTHLGVPAARVYIEFSDVNASDVGWNGSTFV

>*V.\_vinifera*\_XP\_002264120

MPCVDISTNVNLEGVDADPIFSDVTKAVASIIIGKPENYVMVLLKGSVAISFEGNKEPAAFAEIIIS  
MGGINSEVVRKLIATIGTILQTKLSIPRTRFFLKVYD'TTMAHKIAKL

>*V.\_vinifera*\_XP\_002263560

MPCLNLSSTNVSLDGVDTSSILSEATSTVAKIIIGKPEAYVMIVLKGSPVPIAFGGTEQPAAYGELVS  
IGGLNPGTNKELSAAISAILETKLSVPKSRFFLKFYDSKGSNFGWNGSTF

>*V.\_vinifera*\_XP\_002264373

MPTLNLFTNVPVDAVVASDILKDCTKAVAKIIIGKPESYVMILLNGGVPIEFAGTEEPAAYGELIS  
IGGLGPSVNGKLSSTIAEIIQTKLSIDSARFYVKFYDVERSFFGFNGSTF

>*Z.\_mays*\_XP\_008677331

MPCLNVSTNVNLEGVDTSAILAEASKSVANIIIGKPEAYVMVVLKGSVPMAFGGTQEPAAYGELVS  
IGGLNPDVNKKLSAGIASILESKLSVPKSRFYLFYDSKRSDFGWNGSTF

>*Z.\_mays*\_NP\_001150913

MPTLNLSTNVPVDAVVAADILRDCSKAVARIIGKPESYVMVSVNGSVPMSFAASEEPAAYGELVS  
IGGIGPGVNGKLSAAVAEVLEAKLSVSRSRFYIKFDDVRGHNFGFNGSTF