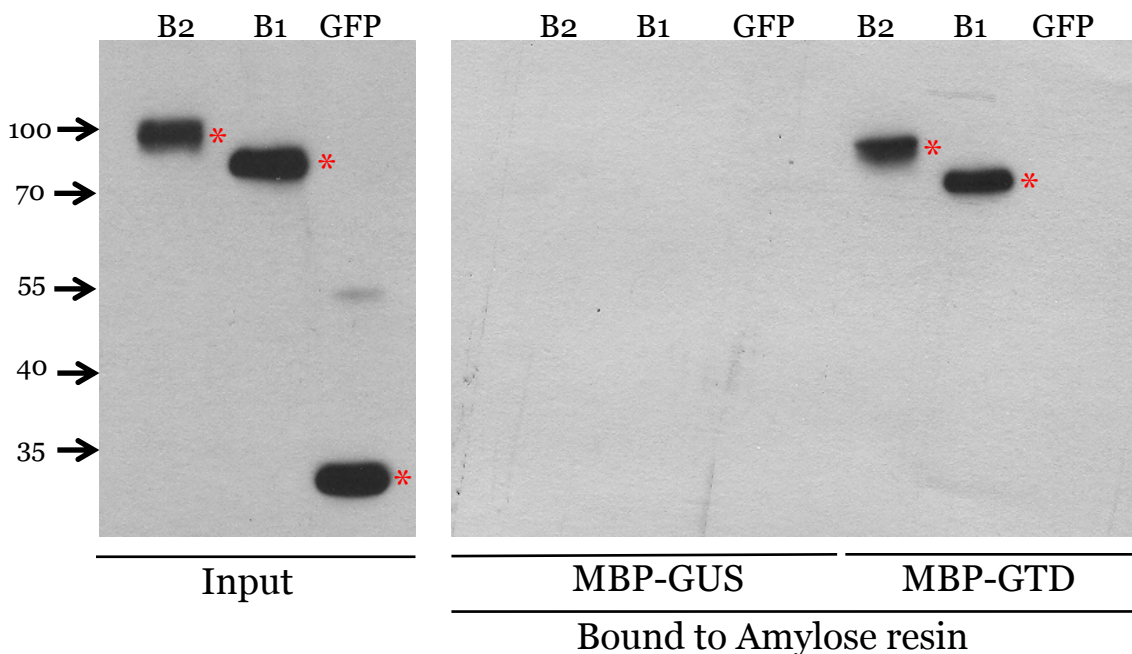
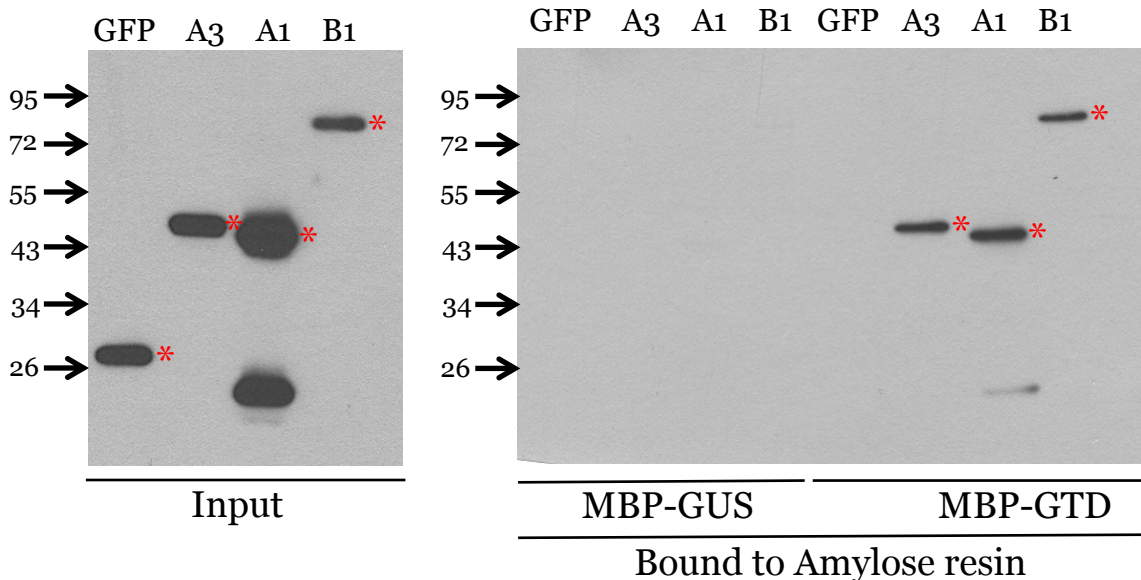


SI Fig. S1. Subcellular fractionation of leaf extracts from Columbia plants (A), transgenic plants expressing GFP-tagged MyoB12-14 (B) or GFP-tagged Mad proteins (C) as indicated. The 3,000 g (3Kg) and 100,000 g (100Kg) supernatants (s/n) and pellets were analyzed using immunoblotting and antibodies specific to cytoplasmic protein fructose-1,6 bisphosphatase (cFBPase) (row 1), to ER-luminal protein BiP (row 2), to myosin XI-K that associates with MyoB vesicles (row 3) or to GFP (rows 4-9). Treatment of 100Kg pellets shown in the left column with either 1M NaCl or 1% Triton X-100, followed by centrifugation at 100Kg is shown in two right-most columns, respectively.



SI Fig. S2. Pull-down assay showing specific binding of MadA1:FLAG (A1), MadA3:FLAG (A3), MadB1:FLAG (B1) and MadB2:FLAG (B2; At1g62390) to immobilized XI-K-GTD (MBP-GTD) but not to immobilized GUS (MBP-GUS; negative control). Note that GFP:FLAG does not bind to either MBP-GUS, nor to MBP-GTD providing additional control of binding specificity. The immunoblot analysis and FLAG-specific antibody were used for band visualization. The arrows denote positions of protein markers with molecular mass in kDa. Red asterisks mark full-size protein bands; bands of lower molecular mass probably correspond to degradation products.

SI Table S1. Y2H screens of the Normalized Arabidopsis Universal Library using MyoB14 (AT4G13160) as bait

Hits	Match ID	Protein Description
3	AT4G36980	Molecular function unknown
3	AT3G61790	Protein with RING/U-box and TRAF-like domains
3	AT2G41980	Protein with RING/U-box and TRAF-like domains
2	AT5G20490	Myosin XI-K
1	AT1G17580	Myosin XI-1
1	AT1G22640	Symbols: ATMYB3, MYB3. Myb domain protein 3
2	AT5G51850	Unknown protein (TAIR:AT5G62170.1)
1	AT1G11125	Unknown protein (TAIR:AT1G61170.1)

SI Movie Legends

All movies were filmed at 5 frames/sec; bar corresponds to 2 μm .

SI Movie S1. Linear transport of the MyoB12-GFP-tagged endomembrane vesicles.

SI Movie S2. Linear transport of the MyoB13-GFP-tagged endomembrane vesicles.

SI Movie S3. Linear transport of the MyoB14-GFP-tagged endomembrane vesicles.
Note larger size and sparser appearance of these vesicles compared to MyoB12-GFP and MyoB13-GFP.

SI Movie S4. Apparent export of the GFP-MadA1-tagged material out of nucleus.

SI Movie S5. The endomembrane vesicles associated with MadA2-GFP partition between motile linear arrays and diffuse cytosolic compartment.

SI Movie S6. The endomembrane vesicles associated with MadA3-GFP partition between motile linear arrays and diffuse cytosolic compartment.

SI Movie S7. The endomembrane vesicles associated with MadB1-GFP partition between motile linear arrays and diffuse cytosolic compartment.

SI Appendix, Dataset S3: The phylogenetic tree for plant myosins

The maximum-likelihood phylogenetic tree of the myosin family was built using the FastTree program as described in the Materials and Methods section. The multiple alignment used for tree reconstruction contains 512 sequences and 693 informative positions (alignment can be provided by request). The topology of this myosin tree is consistent with myosin classification published before (see ref. Peremyslov VV, et al. 2011 in the main text). *Amborella trichopoda* (see Amt_XXXXXX IDs), a basal member of the flowering plant lineage Magnoliophyta, possesses a single myosin of each subfamily.

The tree (below) is provided in Newick format, could be open in MEGA or in any other tree visualization software. To open the file copy the text below the dotted line to a text file with “tre” extension, MEGA (or other tree visualization software) should open the file automatically. The original sequence data in fasta format with identifiers corresponding to this tree is provided at the following FTP site in the file **Myosins.fa** and the species abbreviations are explained in the file **Species abbreviation**:

ftp://ftp.ncbi.nlm.nih.gov/pub/wolf/_suppl/myosins/

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0.06871)0.835:0.01731)0.960:0.02149)0.964:0.02250,((((Gm_I1LYR2:0.00711,(Gm_I1L8I7:0.00012,Gm_
K7LHD6:0.00014)0.948:0.00709)0.996:0.02420,(Mt_G7KZI6:0.05891,(Gm_I1N9X9:0.00699,Gm_K7KFL5:
0.01003)0.475:0.00859)0.971:0.01898)0.999:0.02858,((Pt_B9GRA7:0.03915,((Eg_A0A059AWS9:0.0,Eg_
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)0.430:0.00607)0.750:0.01145,(SI_K4C3I9:0.04849,(Nb_116047943|gb|ABJ53197.1|:0.01562,(SI_K4CU5
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:0.00278)0.994:0.01645,((Bn_A0A078JDE8:0.0,Bo_A0A0D3E6B3:0.0):0.00015,(Bn_A0A078H652:0.00138
,Br_M4EFF0:0.00447)0.702:0.00275)0.542:0.00514)0.958:0.01144)0.991:0.02675,(Al_D7KDB8:0.02409,(

(Bn_A0A078H423:0.0,Br_M4EUP4:0.0):0.00416,(Bn_A0A078F615:0.00015,Bo_A0A0D3DZ25:0.00139)0.762:0.00137)0.994:0.02116)0.993:0.02854)1.000:0.06532,((Al_D7L596:0.04969,((Bn_A0A078EYT9:0.00607,(Br_M4F5V4:0.00599,(Bn_A0A078H538:0.00690,Bo_A0A0D3D2B8:0.01026)0.482:0.00425)0.776:0.00528)0.995:0.03219,((Bn_A0A078EMV6:0.00014,Bo_A0A0D3E3L7:0.00282)0.941:0.00773,(Bn_A0A078HQ64:0.00014,Br_M4F6H8:0.00141)0.881:0.00533)0.995:0.02864)0.999:0.05713)1.000:0.11465,(Al_D7MD92:0.03521,(Bn_A0A078HBR5:0.00405,((Bn_A0A078JJP2:0.0,Bo_A0A0D3A3Q4:0.0):0.00138,Br_M4D3J9:0.00137)0.863:0.00014)0.992:0.02524)0.999:0.05143)0.992:0.04345)0.996:0.03708)0.942:0.01803)0.928:0.01357,((Obr_J3LID2:0.00844,((Op_A0A0E0K6W0:0.0,Op_A0A0E0K6W1:0.0):0.00289,((Og_I1P5J6:0.0,Osj_Q0DWF7:0.0,Osj_Q6K6A2:0.0):0.00014,((Oba_A0A0D3FC24:0.0,Or_A0A0E0NMU1:0.0):0.01206,(Og_I_A0A0D9Z050:0.00014,Osj_B8AEU5:0.01507)0.902:0.00835)0.959:0.01169)0.949:0.00416)0.845:0.00015)0.958:0.01348,(Sb_C5XVW4:0.01827,(Bradi3g55350:0.01779,(Ta_W5GAK6:0.00010,(Ta_W5GJP4:0.00137,(Ta_W5GUN4:0.00138,Tu_M8A7Q7:0.02459)0.000:0.00015)0.928:0.00128)1.000:0.02614)0.997:0.02124)0.872:0.00626)1.000:0.08152)0.051:0.01040)1.000:0.07334,(Amt_W1NDV1:0.04795,(((Nb_116047945|gb|ABJ53198.1|:0.00622,(Sl_K4AY46:0.00554,(St_M1D2P9:0.0,St_M1D2Q0:0.0,St_M1D2Q1:0.0,St_M1D2Q2:0.0):0.00435)0.994:0.02026)1.000:0.05183,((Bradi1g08710:0.00699,(Ta_W5FRD9:0.00279,(Ta_W5EXE4:0.00014,Ta_W5FCE1:0.00138)0.748:0.00139)0.989:0.01643)0.994:0.02012,((Sb_C5X155:0.00703,Zm_A0A096TX06:0.00853)0.989:0.01321,(Obr_J3LST2:0.01030,((Ogl_A0A0D9ZD42:0.0,Ogl_A0A0D9ZD43:0.0,Osj_B8AJV7:0.0,Osj_Q0DNL1:0.0,Osj_Q8W312:0.0,Osj_Q94GQ9:0.0):0.00014,(Og_I1PFG8:0.00014,(Ogl_A0A0D9ZD44:0.00145,(Oba_A0A0D3FP19:0.00014,(Oba_A0A0D3FP20:0.00014,(Or_A0A0E0P1A2:0.00154,Op_A0A0E0KJ00:0.00884)0.000:0.00014)0.519:0.00014)0.496:0.00016)0.867:0.00015)0.000:0.00015)0.887:0.00384)0.984:0.01512)0.538:0.00728)1.000:0.04243)0.072:0.00839,(((Cus_A0A0A0K9X5:0.03840,(Al_D7LEA8:0.01803,(Bo_A0A0D3B4H1:0.00137,(Bn_A0A078CQI1:0.00280,(Bn_A0A078D6E8:0.00140,Br_M4E271:0.00136)0.000:0.00014)0.997:0.00014)0.967:0.01349)1.000:0.06037)0.373:0.01204,(Mt_G7IQR6:0.03752,(Gm_I1KTU1:0.00648,(Gm_I1MJG6:0.0,Gm_I1MJG7:0.0):0.00611)0.956:0.01663)1.000:0.04062)0.751:0.00611,(Rc_B9REP0:0.04288,(Pt_B9HPQ0:0.02392,Pt_U5GR48:0.02494)0.951:0.01435)0.873:0.00529)0.816:0.00902)0.787:0.01512)1.000:0.10016)0.926:0.02249)1.000:0.04924,(Amt_W1PFM8:0.04033,(((Eg_A0A059D272:0.20698,((Mt_A0A072VLU1:0.02083,(Mt_A0A072VKN1:0.00015,(Mt_A0A072VMC2:0.00141,Mt_A0A072VWV8:0.00138)0.859:0.00137)0.988:0.01554)1.000:0.05901,(Gm_K7LH82:0.02007,Gm_K7LZ94:0.01647)0.981:0.02948)1.000:0.09828)0.862:0.01664,((Al_D7LW08:0.01499,((Bn_A0A078BVI1:0.0,Br_M4CGJ1:0.0):0.00025,(Bo_A0A0D3CUJ1:0.00281,Bn_A0A078EBV5:0.00014)0.998:0.00116)0.998:0.02251,((Bn_A0A078EHF7:0.00131,Bo_A0A0D3BX43:0.00439)0.964:0.00721,(Bn_A0A078DP45:0.00273,Br_M4DDL4:0.00438)0.852:0.00276)0.992:0.01688)0.861:0.00842)1.000:0.15782,(Pt_B9GS42:0.12277,Rc_B9S4V9:0.08926)0.951:0.02713)0.889:0.01991)0.999:0.06020,(((Obr_J3MCN8:0.00279,((Oba_A0A0D3GGU8:0.0,Oba_A0A0D3GGU9:0.0,Og_I1Q6K4:0.0,Ogl_A0A0E0AA18:0.0,Or_A0A0E0PY32:0.0,Or_A0A0E0PY33:0.0,Osj_B8B2G1:0.0,Osj_Q67VX5:0.0):0.00282,(Op_A0A0E0LBR3:0.0,Op_A0A0E0LBR4:0.0):0.00016)0.750:0.00141)0.918:0.00778,((Sb_C5Z7E0:0.00447,Zm_K7W4X8:0.00817)0.988:0.01858,(Bradi1g45120:0.00882,(Ta_W5HJT5:0.00015,Tu_M7ZHP6:0.00161)1.000:0.03472)0.970:0.01544)0.713:0.00734)1.000:0.06748,((((Bn_A0A078HV10:0.0,Br_M4EGQ4:0.0):0.00136,(Bn_A0A078EOR5:0.00139,Bo_A0A0D3E5Y1:0.00014)0.927:0.00421)1.000:0.03815,(Al_D7KIU9:0.01676,((Bn_A0A078GXFO:0.02187,Br_M4EPL9:0.03004)0.989:0.02079,((Bn_A0A078DXD3:0.00014,Br_M4DQ14:0.00016)0.977:0.00712,(Bn_A0A078E6S1:0.00472,Bo_A0A0D3C8K4:0.00307)0.880:0.00297)0.854:0.00303)0.963:0.01098)0.972:0.01302)0.995:0.02903,((Mt_A0A072U4E6:0.04232,(((Gm_I1NIS2:0.0,Gm_K7N528:0.0):0.00302,Gm_K7LJT2:0.01510)0.958:0.01677,Mt_G7I6V3:0.09229)0.963:0.01883)0.610:0.01008,Gm_I1JRQ8:0.05988)0.977:0.02139)0.878:0.01355,((Pt_B9I5L5:0.02934,Pt_U5FFY7:0.03120)0.994:0.02742,(Rc_B9S7I4:0.0

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SI Appendix, Dataset S4: The phylogenetic tree for MyoB family of myosin receptors

The maximum-likelihood phylogenetic tree of the MyoB family was built using the FastTree program as described in the Materials and Methods section. The multiple alignment used for tree reconstruction contains 526 sequences and 93 informative positions (alignment can be provided by request). The topology of this myosin tree is consistent with MyoB family classification published before (see ref. Peremyslov VV, et al. 2013 in the main text). *Amborella trichopoda* (see Amt_XXXXXX IDs), a basal member of the flowering plant lineage Magnoliophyta, possesses a single MyoB of each subfamily.

The tree (below) is provided in Newick format, could be open in MEGA or in any other tree visualization software. To open the file copy the text below the dotted line to a text file with “tre” extension, MEGA (or other tree visualization software) should open the file automatically. The original sequence data in fasta format with identifiers corresponding to this tree is provided at the following FTP site in the file **MyoB.fa** and the species abbreviations are explained in the file **Species abbreviations:**

ftp://ftp.ncbi.nlm.nih.gov/pub/wolf_suppl/myosins/

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(Vv_731369429:0.02026,Rc_B9SP67:0.04097,((Pt_U5G1X8:0.07093,Pt_B9HJD7:0.00014)0.770:0.01018,(((Gm_K7LDE8:0.0,Gm_K7LDE7:0.0):0.08344,(Gm_K7KQ51:0.00972,(Gm_K7LVS8:0.01963,Gm_I1KRS7:0.00014)0.091:0.00014)0.843:0.03697)0.221:0.01267,(((Sl_K4BNU4:0.0,St_M1CVY3:0.0,St_M1CVY4:0.0):0.02504,(Eg_A0A059BEU2:0.07779,((Al_D7KYE0:0.00014,At1g70750:0.02962)0.951:0.05397,(Bn_A0A078F8Q8:0.00014,(Bn_A0A078E6H2:0.0,Bn_A0A078FB04:0.0,Bo_A0A0D3CZN6:0.0,Br_M4DI63:0.0):0.04476)0.747:0.01467)0.983:0.08992)0.007:0.01745)0.699:0.01593,(Rc_B9SYW0:0.03157,(Pt_B9H3A2:0.01986,Pt_U5FLW3:0.01000)0.864:0.02099)0.756:0.01020)0.847:0.02669)0.656:0.00015,(((Vv_225453201:0.04166,Eg_A0A059AEH1:0.05177)0.323:0.01522,(((Amt_W1P0C1:0.16428,(((Oba_A0A0D3EUN9:0.0,Og_I1NS42:0.0,Ogl_A0A0D9YFP4:0.0,Op_A0A0E0JPE0:0.0,Or_A0A0E0N369:0.0,Osi_B8AA70:0.0,Osj_Q5ZC01:0.0):0.01018,((Sb_C5XLL4:0.01813,Zm_B8A0D5:0.03217)0.915:0.03030,(Bradi2g515101:0.03999,(Ta_A0A077S3R2:0.02497,((Ta_W5DBQ4:0.0,Ta_W5CBU1:0.0):0.00014,(Hv_M0XJ36:0.0,Hv_M0XJ34:0.0):0.0101)0.716:0.00699)0.962:0.06159)0.855:0.02001)0.892:0.02999)0.502:0.01736,Obr_J3L4K8:0.01270)0.994:0.17953,((Bradi1g053102:0.23939,(Hv_F2CZ77:0.03689,Ta_W5FF62:0.02210)0.758:0.04890)0.993:0.24204,(Sb_C5WX46:0.06851,(Obr_J3LTR9:0.06917,((Oba_A0A0D3FQ83:0.0,Og_I1Q5S9:0.0,Ogl_A0A0D9ZEH2:0.0,Or_A0A0E0P2L4:0.0,Osi_A2XMY8:0.0,Osj_Q851Q1:0.0,Osj_Q10C07:0.0):0.01144,Op_A0A0E0KK90:0.01027)0.794:0.03075)0.752:0.02859)0.424:0.04390)0.963:0.12449)0.797:0.04380,((((Hv_M0UVM3:0.0,Hv_M0UVM4:0.0):0.01015,(Ta_W5EFI4:0.02067,((Ta_W5E0D0:0.0,Tu_M7ZM62:0.0):0.00016,Ta_W5E7B3:0.01012)0.000:0.00014)0.970:0.04136)0.909:0.04000,((Obr_J3LKB0:0.02942,((Oba_A0A0D3FE70:0.0,Og_I1P7W5:0.0,Ogl_A0A0D9Z2H1:0.0,Op_A0A0E0K967:0.0,Or_A0A0E0NQ36:0.0,Osj_Q8S5U4:0.0):0.00014,Osi_A2XCW2:0.00984)0.839:0.02041)0.892:0.03281,(Zm_K7VQG3:0.05234,Sb_C5WWW5:0.01370)0.919:0.04745)0.760:0.01154)0.114:0.02728,Bradi1g741351:0.12394)0.944:0.07639,((Sb_C5WM45:0.01401,(Zm_C4IYG8:0.04131,Zm_C0HG96:0.00014)0.481:0.01712)0.985:0.10607,(((Oba_A0A0D3HDN0:0.0,Og_I1QUH2:0.0,Ogl_A0A0E0BAI2:0.0,Ogl_A0A0E0BAI3:0.0,Op_A0A0E0M7N3:0.0,Or_A0A0E0QZ38:0.0,Osi_A2Z793:0.0,Osj_Q7XEN2:0.0):0.00015,Obr_J3N2M7:0.01008)0.940:0.03165,(Bradi3g267101:0.02046,((Ta_W5AF78:0.0,Ta_W5A3R5:0.0):0.00016,(Hv_M0ZAF9:0.00981,Tu_M7ZJL4:0.00014)0.941:0.0199
```

6)0.989:0.05253)0.733:0.00817)0.749:0.02666)0.918:0.06461)0.983:0.11976,(((Mt_A0A072VKN8:0.072
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GDH9:0.04962)0.840:0.03780)0.366:0.03494)0.376:0.00014,((Cus_A0A0A0KHP0:0.13753,Vv_731394779
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530,(Bn_A0A078F2E1:0.01089,Bo_A0A0D3CTV1:0.00014)0.927:0.03307)0.755:0.01022)0.932:0.03119)0

.750:0.00956)0.761:0.02054)0.988:0.20811)0.935:0.13891)0.992:0.35749,((Amt_W1NW15:0.12526,((Cus_A0A0A0L4N9:0.09557,((Eg_A0A059ATQ9:0.10796,(((SI_K4DHL1:0.02013,St_MOZZT7:0.00984)0.998:0.13991,(Al_D7KE88:0.00014,(At1g04890:0.03074,(Bn_A0A078FZT2:0.0,Bn_A0A078DMK7:0.0,Bo_A0A0D3C7M9:0.0,Br_M4DFT7:0.0):0.03114)0.033:0.00992)1.000:0.17327)0.000:0.00015,((At4g13630:0.02006,Al_D7MHD8:0.00015)0.756:0.01800,((Bn_A0A078EJ22:0.01001,Br_M4EV92:0.00014)0.649:0.00408,(Bo_A0A0D3BYY3:0.02005,Bn_A0A078JTT7:0.00014)0.757:0.01590)0.462:0.02834)0.968:0.07830)0.858:0.03000)0.766:0.01087,((Pt_B9IJH5:0.06974,Rc_B9RWI0:0.05047)0.896:0.03829,(Rc_B9RWI2:0.09841,(Vv_731390415:0.00014,Vv_147800067:0.10980)0.992:0.06189)0.263:0.00015)0.791:0.01019)0.716:0.01030)0.759:0.01114,((Rc_B9S519:0.12494,(Eg_A0A059A422:0.10374,(((Gm_K7KDR3:0.0,Gm_K7KDR4:0.0):0.01519,Gm_I1MMD3:0.00775)0.945:0.05264,(Mt_A0A072UHY6:0.07862,Mt_A0A072UGC2:0.09121)0.446:0.03095)0.983:0.10034)0.689:0.01762)0.845:0.02937,(Cus_A0A0A0K8C0:0.25375,((At4g13160:0.05107,Al_D7MVD0:0.00015)0.774:0.01317,((Bn_A0A078EK65:0.0,Bn_A0A078IAZ6:0.0,Bo_A0A0D3BZ26:0.0,Br_M4EV59:0.0):0.00985,Br_M4F1E0:0.06318)0.668:0.00733)0.992:0.16096)0.790:0.03820)0.894:0.03472)0.884:0.07427)0.834:0.07045,(((((((Ogl_A0A0D9ZIV6:0.0,Ogl_A0A0D9ZIV4:0.0,Ogl_A0A0D9ZIV5:0.0):0.00015,Ogl_A0A0D9ZIV3:0.01199)1.000:0.00963,(Op_A0A0E0KNZ3:0.0,Op_A0A0E0KNZ1:0.0,Op_A0A0E0KNZ2:0.0):0.00014)0.890:0.00039,(Oba_A0A0D3FU29:0.0,Oba_A0A0D3FU28:0.0,Or_A0A0E0P776:0.0,Osi_B8AS86:0.0):0.00014)0.901:0.03284,(Zm_C0P8H5:0.02503,Sb_C5WZE5:0.02425)0.930:0.08160)0.542:0.00721,(Bradi5g047701:0.00014,(Ta_W5BTD2:0.09107,(Ta_W5B681:0.01042,(Ta_W5APZ0:0.00014,Hv_F2DH65:0.03394)0.855:0.01093)0.930:0.00014)0.993:0.11054)0.946:0.11393)0.994:0.34563,(Nm_JV763923.1:0.25277,Nm_GBST01089513.1:0.52356)0.973:0.33547)0.293:0.03467,(Amt_U5CWK8:0.35414,(((SI_K4B2H8:0.02630,St_M1AQ21:0.02503)0.992:0.22135,((Rc_B9RX72:0.18637,Pt_B9HN81:0.18922)0.912:0.11924,(((Mt_G7JU33:0.13247,((Gm_K7L2I3:0.0,Gm_K7L2I4:0.0):0.01854,Gm_K7L5A6:0.01222)0.989:0.19398)0.816:0.06932,(Mt_B0F6S9:0.14970,(Gm_I1ME16:0.00014,Gm_K7M1V6:0.03002)0.990:0.15651)0.959:0.12977)0.868:0.07534,Cus_A0A0A0KYH0:0.47582)0.195:0.02367)0.831:0.05481)0.775:0.05008,((Obr_J3LYM0:0.05459,((Oba_A0A0D3FWQ7:0.0,Og_I1PLZ3:0.0,Op_A0A0E0KRJ4:0.0,Or_A0A0E0PA64:0.0,Osi_A2XUC1:0.0,Osj_Q6MWD8:0.0):0.00015,Ogl_A0A0D9ZLS6:0.01154)0.675:0.00500)0.908:0.09317,((Sb_C5Y9W8:0.04451,Zm_A8DMN5:0.02581)0.986:0.14516,(((Tu_M7ZTN3:0.04849,Hv_MOYXX3:0.19568)0.537:0.00014,Ta_W5BGV5:0.00014)0.000:0.00014,(Hv_F2CXJ5:0.0,Hv_MOZE80:0.0):0.03250)0.885:0.06883)0.727:0.02918)1.000:0.51190,((Bn_A0A078GLG2:0.0,Br_M4EAW2:0.0):0.05294,(Bo_A0A0D3CB61:0.00014,(Bn_A0A078FXS3:0.02585,(Al_D7KGC2:0.07978,At1g18265:0.08973)0.921:0.05650)0.816:0.00014)0.646:0.00011)0.987:0.30188)0.480:0.06297)0.842:0.12912)0.992:0.36908)0.830:0.13244)0.854:0.12561)0.793:0.06898,((((Sphfalx0145s00341:0.0,Sphfalx0145s00342:0.0,Sphfalx0145s00343:0.0,Sphfalx0145s00344:0.0):0.02424,(Sphfalx0130s0025:0.00015,Sphfalx0590s0002:0.01630)0.945:0.04852)0.995:0.13353,(Sphfalx0017s0030:0.12914,Sphfalx0099s0064:0.13962)0.656:0.00797)0.979:0.14780,((Sphfalx0145s0033:0.03873,(Sphfalx0099s0063:0.08122,Sphfalx0041s0123:0.06390)0.795:0.02794)0.977:0.12211,((Pp_A9SIB3:0.01144,Pp_A9SKP6:0.11995)0.993:0.15406,((Pp_A9TOC3:0.02092,Pp_A9RYU4:0.04014)0.835:0.02898,(Pp_A9RV31:0.02501,Pp_A9SA43:0.04647)0.954:0.06641)0.839:0.05311)0.857:0.09916)0.152:0.02199)0.000:0.06380,(Sm_D8XQ3:0.0,Sm_D8SDU0:0.0):0.29185)0.238:0.03618)0.891:0.07063,(Sm_D8S189:0.0,Sm_D8R124:0.0):0.13192)0.702:0.02355)0.992:0.18244)0.525:0.03848)0.624:0.00511,((Mt_G7K1Q1:0.06650,((Gm_K7M8F4:0.0,Gm_K7M8F5:0.0):0.00967,Gm_K7KAJ6:0.01955)0.843:0.02827)0.935:0.05139,(Amt_W1NIX3:0.02685,((At5g16720:0.0,Al_D7M875:0.0):0.04833,((Bn_A0A078BX93:0.0,Bo_A0A0D3EEY6:0.0):0.00014,(Bn_A0A078FR72:0.01006,Br_M4CWK4:0.00014)0.886:0.01006)0.809:0.02391)0.999:0.16880)0.540:0.02816)0.745:0.01520)0.734:0.01044)0.776:0.01132,(((Sb_C5WNQ5:0.00972,(Zm_A0A096SRB9:0.01991,Zm_A0A096QGB8:0.00016)0.680:0.00014)0.846:0.03202,((Obr_J3LS23:0.0416

0,((Op_A0A0E0KI24:0.0,Op_A0A0E0KI23:0.0):0.02868,(Bradi1g1118710:0.04991,(Hv_M0V049:0.00994,(Ta_W5DPC9:0.0,Ta_W5ED29:0.0,Ta_W5ENU5:0.0,Tu_M7ZJ59:0.0):0.00014)0.901:0.03131)0.914:0.04056)0.119:0.00015)0.763:0.00993,((Oba_A0A0D3FN30:0.0,Oba_A0A0D3FN29:0.0,Og_I1PEW3:0.0,Ogl_A0A0D9ZCA0:0.0):0.00014,(Osi_B8AQB9:0.01994,(Or_A0A0E0P0A1:0.0,Or_A0A0E0P0A0:0.0,Os_j_Q53RK9:0.0):0.00014)0.913:0.00978)0.799:0.01101)0.764:0.01729)1.000:0.15780,((Zm_K7W117:0.02011,Sb_C5WQS3:0.00014)0.869:0.02019,(((Bradi1g675301:0.00964,(((Ta_W5EFH3:0.0,Ta_W5E2J5:0.0):0.00014,(Ta_W5DYL7:0.0,Tu_M7ZFL5:0.0):0.00974)0.000:0.00016,((Hv_M0XAT4:0.00917,Hv_M0XAT3:0.00014)0.000:0.00029,Ta_W5EDX8:0.00014)0.999:0.00034)0.983:0.05062)0.863:0.02044,(Or_A0A0E0NSQ8:0.00967,(Oba_A0A0D3FGG3:0.00966,(Og_I1P9P1:0.0,Ogl_A0A0D9Z4Y4:0.0,Op_A0A0E0KBI7:0.0,Osi_A2XER1:0.0,Os_j_Q10NT0:0.0):0.00014)0.000:0.00015)0.910:0.01981)0.997:0.00015,(Obr_J3LM70:0.00014,((Op_A0A0E0MME8:0.01253,((Hv_M0XVY6:0.01316,Ta_A0A077RSE9:0.01246)0.896:0.07121,(Sb_C5YNP2:0.02568,Zm_B6UHQ1:0.04329)0.978:0.11589)0.905:0.06818)0.627:0.00333,(Osi_A2YIZ5:0.01221,(((Oba_A0A0D3HUH9:0.0,Ogl_A0A0E0BSS1:0.0,Or_A0A0E0RHB2:0.0):0.00015,Os_j_Q2QQV4:0.01219)0.919:0.01219,Osi_A2ZKI1:0.02449)0.000:0.00015)0.752:0.02110)1.000:0.69658)0.849:0.00971)0.693:0.02018)0.862:0.03661)0.864:0.03602,Cus_A0A0A0KRI5:0.03970)0.751:0.01038)0.791:0.01016)0.796:0.01931);

SI Appendix, Dataset S5: The phylogenetic tree for MadA family of myosin interactors (schematically shown on the **Figure 6A**).

The maximum-likelihood phylogenetic tree of the MadA family was built using the FastTree program as described in the Materials and Methods section. The multiple alignment used for tree reconstruction contains 162 sequences and 238 informative positions (alignment can be provided by request).

The tree (below) is provided in Newick format, could be open in MEGA or in any other tree visualization software. To open the file copy the text below the dotted line to a text file with “tre” extension, MEGA (or other tree visualization software) should open the file automatically. The original sequence data in fasta format with identifiers corresponding to this tree is provided at the following FTP site in the file **MadA.fa** and the species abbreviations are explained in the file **Species abbreviations**:

ftp://ftp.ncbi.nlm.nih.gov/pub/wolf/_suppl/myosins/

((((((((Hv_MOXTZ2:0.07866,Ta_W5B636:0.19238)1.000:0.71278,Tu_M7YLB5:0.02281)0.836:0.06991,(Ta_W5BPX9:0.03998,Ta_W5C957:0.00015)0.599:0.04171)0.959:0.20046,(((Sb_C5YD86:0.08339,Zm_B4F8G1:0.33350)0.989:0.13844,(Obr_J3LW59:0.06396,(Op_A0A0E0KNA9:0.02075,((Oba_A0A0D3FTA3:0.0,Og_l1PJk4:0.0):0.00444,(Ogl_A0A0D9ZHQ8:0.00442,(Or_A0A0E0P686:0.0,Os_j_Q7X6C4:0.0,Os_i_A2XPG5:0.0):0.00014)0.000:0.00014)0.854:0.01663)0.966:0.07211)0.135:0.03156)0.911:0.05921,Bradi5g04057:0.18014)0.693:0.06128)0.996:0.42152,(Amt_W1NIV0:0.55495,(((St_M1B646:0.02256,(Sl_K4C3S8:0.04757,St_M1B645:0.00016)0.990:0.10520)1.000:0.30074,(Eg_A0A059AZJ3:0.31580,(((Bo_A0A0D3B8R1:0.03129,(Bn_A0A078G033:0.02214,(Bn_A0A078DUN2:0.00870,Br_M4C9I3:0.00476)0.931:0.01989)0.181:0.00379)0.954:0.05563,(At4g02800:0.05031,Al_D7M3C9:0.03515)0.816:0.05115)1.000:0.25531,(Mt_A0A072U227:0.28383,(Gm_l1N9H4:0.08112,Gm_l1JNU2:0.10167)0.981:0.12079)0.683:0.06977)0.907:0.07005)0.473:0.02753)0.821:0.03891,(Pt_B9GSN9:0.15310,Pt_B9H882:0.22793)0.980:0.14748)0.835:0.04556,(Cus_A0A0A0KDW3:0.37391,Rc_B9S426:0.17147)0.862:0.05291)0.949:0.17956)0.226:0.09942)1.000:0.88904,(Kf_971519056:1.25603,((Mpu_C1N764:3.23286,Ms_C1EFB8:1.68729)0.882:0.91634,((Ot_A0A096PBY7:2.54590,(Cv_E1ZJ64:1.84110,(Aup_A0A087SH94:1.23109,(Hs_A0A059LI87:2.42966,Cs_I0Z873:2.83057)0.333:0.73262)0.644:0.32401)0.865:0.52278)0.807:0.32279,(Sm_D8SML0:0.03298,Sm_D8SB05:0.00083)0.999:1.04936)0.124:0.06151)0.892:0.29638)0.753:0.08227)0.903:0.13159,(Sm_D8R9T8:0.85240,((Pp_A9SY78:0.27712,(Sf_Sphfalx0065s0046:0.35322,Sf_Sphfalx0124s0050:0.36624)0.985:0.23592)0.990:0.34063,(Mp_1026777147:0.20419,(Sm_D8SQ49:0.04942,Sm_D8S8U1:0.00014)0.992:0.68032)0.485:0.22482)0.088:0.06092)0.016:0.04979)0.988:0.35314,Sl_K4CT56:0.47768)0.650:0.03212,((((Bradi4g25917:0.03361,((Hv_F2DPL2:0.00116,Hv_M0UZP8:0.00015)0.835:0.06686,(Ta_W5DUK8:0.02014,(Ta_W5EBS2:0.00397,Ta_W5ER74:0.00800)0.750:0.00395)0.870:0.01955)0.998:0.09475)0.990:0.10841,((Obr_J3NAV8:0.02426,Obr_J3N5K5:0.01379)0.981:0.04994,((Oba_A0A0D3HHI4:0.00014,(((Ogl_A0A0E0BEN5:0.00394,Os_i_B8BIS1:0.00398)0.000:0.00014,(Og_l1R2K6:0.0,Os_j_Q2RBA7:0.0):0.00014)0.767:0.00014,Or_A0A0E0R3G5:0.00014)0.977:0.00013)0.900:0.01482,(Op_A0A0E0MBT0:0.00799,(((Os_j_Q2QYI4:0.00015,(Os_i_B8BNY6:0.00014,(Oba_A0A0D3HQP9:0.00396,Og_l1R3H9:0.00014)0.000:0.00015)0.909:0.00393)0.000:0.00016,((Op_A0A0E0MIZ4:0.0,Op_A0A0E0MIZ3:0.0):0.01668,Or_A0A0E0RCZ1:0.00014)0.899:0.00015)0.000:0.00014,(Ogl_A0A0E0BN32:0.0,Ogl_A0A0E0BN31:0.0,Ogl_A0A0E0BN30:0.0):0.00014)0.000:0.00015)0.861:0.00922)0.342:0.01601)0.983:0.08825)0.845:0.06921,Sb_Q84YE8:0.14786)1.000:0.30744,((Bn_A0A078FCV0:0.77509,Br_M4CN69:0.33681)0.998:0.73521,(((Bradi2g22060:0.31935,((Hv_M0YKK7:0.08914,Hv_M0YKK6:0.00014)0.761:0.02071,(Ta_W4ZMU4:0.80071,Tu_M7ZTR1:0.05584)1.000:0.37047)1.0

00:0.20015)0.968:0.13117,(Obr_J3M880:0.10549,(Op_A0A0E0L3W9:0.05132,((Og_I1PWP3:0.0,Oba_A0A0D3G919:0.0,Ogl_A0A0E0A0S8:0.0):0.03553,(Or_A0A0E0PP35:0.00014,Osi_A2Y5U2:0.00457)0.295:0.00014)0.972:0.04306)0.946:0.06541)0.975:0.10504)0.818:0.03864,(Zm_A0A096SS41:0.08345,(Sb_C5YZU9:0.04978,Zm_K7VW16:0.21437)0.181:0.01245)0.990:0.16937)0.995:0.40263)0.713:0.07109)0.909:0.10757,((Sb_C5YVS7:0.02597,Zm_B6TIU7:0.00015)0.995:0.10670,((Bradi2g31230:0.01001,(((Hv_M0WWK2:0.0,Hv_M0WWK4:0.0):0.00014,Hv_M0WWK1:0.00015)1.000:0.00816,Hv_M0WWK3:0.00016)0.142:0.00056,((Ta_W5ABL9:0.00014,Ta_W5AM70:0.00415)0.000:0.00016,(Ta_W4ZW20:0.00014,Tu_M7Z2C3:0.00832)0.834:0.00416)0.754:0.00382)0.990:0.04873)0.909:0.02659,(Obr_J3M5X3:0.02358,(Op_A0A0E0L0X3:0.00016,((Oba_A0A0D3G5Y2:0.0,Og_I1PUB1:0.0):0.00411,(Ogl_A0A0D9ZXA3:0.0,Or_A0A0E0PKL6:0.0,Osj_Q5WMS9:0.0,Osi_A2Y343:0.0):0.00015)0.856:0.00413)0.735:0.00611)0.958:0.03226)0.843:0.02834)0.982:0.14082)0.920:0.09194)0.366:0.04712,((((Rc_B9T0P3:0.08255,(Pt_B9IGX6:0.13578,Pt_U5G6E2:0.03650)0.952:0.04262)0.925:0.03728,(Eg_A0A059DE06:0.07397,(Mt_G7KY89:0.13197,(Gm_I1N3C4:0.01635,Gm_I1L6W8:0.03968)0.986:0.10636)1.000:0.20016)0.971:0.07093)0.807:0.02491,((At5g01970:0.01127,Al_D7M6D4:0.01014)1.000:0.24478,(((Bo_A0A0D3BIZ9:0.00015,(Bn_A0A078DNZ9:0.00684,(Br_M4D2U8:0.00016,Bn_A0A078J9E9:0.00453)0.946:0.01383)0.828:0.00681)1.000:0.22269,(((Bn_A0A078EGF7:0.0,Bo_A0A0D3CEP1:0.0):0.02293,(Bn_A0A078GNS3:0.00014,Br_M4EU73:0.00014)0.933:0.02547)0.925:0.03724,(At1g30050:0.01595,Al_D7KEQ0:0.00853)0.997:0.08928)0.311:0.01712)0.735:0.03939,(Bn_A0A078E7V2:0.03280,Bo_A0A0D2ZSI2:0.04971)1.000:0.25377)0.793:0.10354,(Mt_Q1STQ5:0.26505,(Gm_I1JJY7:0.19592,Gm_I1MQQ4:0.18204)0.989:0.24902)0.989:0.23291)0.921:0.07611)0.813:0.05877)0.918:0.05290,Cus_A0A0A0KXX4:0.23274)0.517:0.02471,(St_M1DY11:0.33236,(Sl_K4D1S2:0.00015,((St_M1CNE2:0.00014,St_M1CNF6:0.17632)1.000:0.39972,St_M1CNE3:0.00015)0.685:0.05565)1.000:0.39880)0.593:0.05393)0.964:0.06670,(((Cus_A0A0A0KD42:0.19829,(Eg_A0A059DAT4:0.29923,(Pt_B9INJ6:0.10891,Pt_B9I780:0.07120)0.977:0.10545)0.387:0.05048)0.925:0.05699,(((Bn_A0A078GWV3:1.00291,(Br_M4E206:0.00016,(Bo_A0A0D3BTG3:0.06898,(Bn_A0A078D663:0.00014,(Bn_A0A078GF25:0.0,Bo_A0A0D3B492:0.0):0.07619)0.318:0.03618)0.475:0.00555)0.103:0.00418)0.991:0.15883,(At2g30530:0.01155,Al_D7LC61:0.00720)0.968:0.08528)0.666:0.03822,Br_M4DYP4:0.17283)1.000:0.33109,(Mt_G7IV74:0.09674,(Gm_I1MZN0:0.01840,(Gm_K7LR77:0.04432,Gm_I1LLZ7:0.00015)0.842:0.01825)0.975:0.06704)0.998:0.15622)0.615:0.02335)0.953:0.06528,Amt_W1P346:0.22260)0.204:0.02101);

SI Appendix, Dataset S6: The phylogenetic tree for MadB family of myosin interactors (schematically shown on the **Figure 6A**).

The maximum-likelihood phylogenetic tree of the MadB family was built using the FastTree program as described in the Materials and Methods section. The multiple alignment used for tree reconstruction contains 148 sequences and 573 informative positions (alignment can be provided by request).

The tree (below) is provided in the Newick format, could be open in MEGA or in any other tree visualization software. To open the file copy the text below the dotted line to a text file with “tre” extension, MEGA (or other tree visualization software) should open the file automatically. The original sequence data in fasta format with identifiers corresponding to this tree is provided at the following FTP site in the file **MadB.fa** and the species abbreviations are explained in the file **Species abbreviations**: ftp://ftp.ncbi.nlm.nih.gov/pub/wolf/_suppl/myosins/

(((Bo_A0A0D3B235:0.00747,(Bn_A0A078C3Z8:0.00955,(Br_M4CQR6:0.02674,Bn_A0A078ILA9:0.00380)0.903:0.00575)0.884:0.00857)1.000:0.17990,(At5g20360:0.03358,Al_D7M004:0.05528)0.997:0.12426)1.000:0.53649,(Pt_U7E182:0.18445,Rc_B9T243:0.16881)0.965:0.05233,(((((((At2g25290:0.01567,Al_D7LKM1:0.01249)0.998:0.04744,(((Bn_A0A078HJ71:0.00822,Bo_A0A0D3B7H5:0.00924)0.955:0.01496,(Bn_A0A078D1J2:0.00859,Br_M4C8M1:0.01758)0.246:0.01738)1.000:0.06082,(Bn_A0A078FAZ4:0.00166,(Br_M4CUB1:0.00335,(Bn_A0A078J4N4:0.00166,Bo_A0A0D3DVH4:0.00169)0.978:0.00672)0.000:0.00015)0.999:0.03534)0.727:0.01191)0.995:0.05087,((At4g32070:0.02032,Al_D7MAS3:0.00682)0.993:0.03967,(((Bo_A0A0D3A2P7:0.00016,Bn_A0A078BVJ3:0.00906)0.414:0.00383,(Br_M4D4B6:0.00350,Bn_A0A078CJG8:0.01587)0.415:0.00145)1.000:0.08190,((Bn_A0A078C825:0.0,Bo_A0A0D3DHB3:0.0):0.03070,(Bn_A0A078FMA7:0.01128,Br_M4E5B0:0.02175)0.972:0.02664)0.999:0.05349)0.736:0.02731)0.993:0.05761)1.000:0.23424,((Eg_A0A059CTU4:0.16312,(Rc_B9RP02:0.07983,(Pt_U5G8Z2:0.03589,Pt_B9IL13:0.05916)0.993:0.04023)0.997:0.04363)0.864:0.01479,((Cus_A0A0A0L0I5:0.12274,(Gm_I1JUA6:0.18942,(Gm_K7MN49:0.19944,Mt_A0A072VDJ0:0.10113)0.995:0.09927)0.983:0.05539)0.997:0.05608,((Sl_K4C7L9:0.01916,St_M1CGS2:0.02147)1.000:0.12862,(Sl_K4CJY1:0.02628,St_M1B6V5:0.00810)1.000:0.11927)1.000:0.11244)0.129:0.00955)0.050:0.01353)1.000:0.06564,(((Amt_W1P6V8:0.05648,Amt_U5DIC5:0.02634)1.000:0.19132,(((((((Sl_K4B5S9:0.03877,St_M1BXP4:0.03692)1.000:0.07918,(Sl_K4B9Z0:0.04885,St_M1BE42:0.03141)0.997:0.04810)1.000:0.07725,((Mt_G7JKF9:0.11646,(Gm_I1MR20:0.02694,Gm_I1KNI0:0.04998)0.986:0.04624)0.999:0.07576,(Cus_A0A0A0M0N6:0.14659,(Eg_A0A0A0LY0:0.15060,(Rc_B9RXE4:0.12432,(Pt_U5GJQ5:0.06503,Pt_B9HZH5:0.04823)0.973:0.03191)0.183:0.01117)0.677:0.01884)0.231:0.01060)0.829:0.01631)0.964:0.05258,((At1g62390:0.00616,Al_D7KUR1:0.01160)1.000:0.11976,((Bn_A0A078GZN4:0.02392,Bo_A0A0D3C9T1:0.01541)0.778:0.03063,(Br_M4DT84:0.03279,Bn_A0A078JUP2:0.08548)0.492:0.02448)1.000:0.12559)1.000:0.10606)0.795:0.03406,Mt_Q2HTI5:0.62365)0.222:0.04991,((Hv_M0V5W6:0.02889,(Ta_W5FFA3:0.01334,(Ta_W5FZX1:0.00466,(Ta_W5EUD1:0.00014,Tu_M8ACZ6:0.04816)0.763:0.00347)0.772:0.00357)0.892:0.00791)0.999:0.06313,((Sb_C5XQT5:0.01536,Zm_A0A096PY84:0.03658)1.000:0.07805,((Op_A0A0E0LYM8:0.01510,((Oba_A0A0D3H3Y3:0.0,Og_I1QM63:0.0):0.00364,(Ogl_A0A0E0AZW7:0.00699,(Or_A0A0E0QN96:0.00521,Osi_A2YYR3:0.00174)0.000:0.00016)0.805:0.00014)0.941:0.00766)0.941:0.02120,(Obr_J3KUS8:0.09164,Osj_Q6K464:0.09277)0.197:0.03935)1.000:0.07168)0.142:0.00761)1.000:0.29462)0.500:0.05858,Amt_W1PRJ4:0.26414)0.990:0.10735,((Nm_GBST01087301.1:0.48588,(Kf_971516181|dbj|GAQ82040.1|:1.24872,((Mpu_C1N4S1:0.37846,Ms_C1FH13:0.38212)0.920:0.13712,(Bs_612386891|ref|XP_007508967.1|:0.50423,(Ol_A4RR59:0.19288,Ot_A0A096P8H7:0.20813)1.

000:0.43989)0.981:0.17875)1.000:0.57354,((Ms_C1EJB7:0.50546,(Bs_612386643|ref|XP_007508842.1|:0.55933,(Ol_A4RRV0:0.30179,Ot_A0A090M2T8:0.19248)1.000:0.43743)0.783:0.13230)1.000:0.44344,((Cs_I0YT06:0.66238,(Aup_A0A087SBE8:0.29814,Cv_E1ZLU2:0.27978)1.000:0.56258)0.278:0.13934,(Cr_A8IBF4:0.57582,Mn_926771134|ref|XP_013894041.1|:0.44373)0.882:0.29016)0.939:0.20905)0.482:0.07334)1.000:0.31474)0.906:0.11459)0.876:0.12313,(Mp_1026776067|gb|OAE34842.1|:0.27263,Sf_Sphfalx0094s0036:0.22298)0.993:0.14558)0.974:0.12043)1.000:0.45983)0.894:0.05945,(((Sb_C5X7S2:0.00798,Zm_A0A096R5J8:0.01876)0.991:0.03216,((Ta_W5FCM1:0.01964,(Hv_F2DFW6:0.00229,(Hv_MOX2I0:0.0014,(Hv_MOX2I1:0.00014,Ta_W5FTH1:0.12825)0.554:0.00016)0.905:0.02097)0.795:0.00739)1.000:0.07848,(Obr_J3N004:0.00791,(Op_A0A0E0M4D6:0.00689,((Osi_A2Z3Y3:0.00014,(Ogl_A0A0E0B6G1:0.00169,(Or_A0A0E0QUY5:0.00014,Osj_Q0IZQ4:0.03312)0.000:0.00012)0.000:0.00014)0.779:0.00168,(Oba_A0A0D3H9X0:0.00014,Og_l1QR64:0.00693)0.934:0.00513)0.866:0.00342)0.963:0.00998)0.980:0.02155)0.831:0.01376)1.000:0.21019,(((Sb_C5X7E0:0.03989,Zm_A0A096TYB1:0.04338)1.000:0.10610,((Hv_MOV MH1:0.03633,(Tu_T1MWF2:0.02236,(Ta_W5EY36:0.00170,(Ta_W5FRN8:0.00692,Ta_W5FGG1:0.00864)0.756:0.00169)0.722:0.00129)0.454:0.01810)1.000:0.13023,(Obr_J3MVN0:0.03098,(Op_A0A0E0LYE6:0.02588,((Oba_A0A0D3H3S3:0.0,Og_l1QM26:0.0,Or_A0A0E0QN24:0.0,Osi_A2YYL8:0.0,Osj_Q6K378:0.0):0.00262,Ogl_A0A0E0AZP5:0.00599)0.983:0.01916)0.983:0.02496)0.999:0.07763)0.906:0.02761)1.000:0.18558,((Sb_C5YHV6:0.06563,Zm_K7TQE3:0.06213)1.000:0.12579,(Op_A0A0E0LTG4:0.03977,((Oba_A0A0D3GYN0:0.00015,((Oba_A0A0D3GYN1:0.0,Og_l1QH9C:0.0):0.00015,(Ogl_A0A0E0ATJ0:0.00175,(Osj_Q69 QX2:0.00014,Or_A0A0E0QH11:0.00352)0.000:0.00016)0.924:0.00174)0.891:0.00532)0.764:0.00159,(Osi_A2YTN6:0.00669,(Obr_J3MRX8:0.25689,Osi_A2YTN2:0.14256)0.978:0.07628)0.517:0.00223)0.726:0.00865)1.000:0.10564)1.000:0.13574)1.000:0.13471)1.000:0.13478)0.958:0.04407)1.000:0.08044,((Cus_A0A0A0LYY0:0.19626,((Gm_l1LZU9:0.03552,Gm_l1MU15:0.03807)1.000:0.08983,(Gm_l1L282:0.14870,Mt_A0A072V8J2:0.10499)0.896:0.03405)1.000:0.10931)0.930:0.02784,(Eg_A0A059CMB1:0.01996,(Eg_A0A059CL10:0.05044,Eg_A0A059CKF9:0.01303)1.000:0.16770)1.000:0.17521)0.575:0.02260)0.629:0.01512,(Sl_K4CBK9:0.00958,(St_M1D104:0.00014,St_M1D103:0.00669)0.977:0.01843)1.000:0.19425)0.683:0.01159);