

Additional file 6: Multiple sequence alignment of ten members of YABBY family expressed during the functional transition of the cotyledons

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Glyma12g31670.1  ---MSMDMMATER-----VCYVHCNFCNTTILAVSVPCSSLLTIVTVRCGHCANLLTV 49
Glyma13g38750.1  ---MSMDMMATER-----VCYVHCNFCNTTILAVSVPCSSLLTIVTVRCGHCANLLTV 49
Glyma12g10210.1  ---MSMEMMATER-----VCYVHCNFCNTTILAVSVPYSSLLTIVTVRCGHCANLLSV 49
Glyma06g46560.1  MYVLLCQCQVYISE-----SVLVLAFLVFLVYILVSVPYSSLLTIVTVRCGHCANLLSV 52
Glyma17g12200.1  -MSSCSI DVAPEQ-----LCYIPCNFCNIVLAVSVPCSSLFDIVTVRCGHCTNLSV 51
Glyma13g22620.1  -MSSCSI DVAPEQ-----LCYIPCNFCNIVLAVSVPCSSLFDIVTVRCGHCTNLSV 51
Glyma03g03500.1  -MSSSSTSFSPDQQHLSPSDQLCYVHCNFCDTVLAVSVPCSTSLFKNVTVRCGHCTNLLSV 59
Glyma01g33370.1  -MSSSSTSFSPDQ--HLSPSDQLCYVHCNFCDTVLAVSVPCSTSLFKTVTVRCGHCTNLLSV 58
Glyma05g04260.1  -MSSSSTLSLDH--LPPSEQLCYVHCNICDTVLAVSVPCSTSLFKTVTVRCGHCTNLLPV 57
Glyma17g14710.1  -MSSSSTLSLDH--LPPSEQLCYVHCNICDTVLAVSVPCSTSLFKTVTVRCGHCTNLLPV 57
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Glyma12g31670.1  NMGASLQTFPSQDIT-----QLQRQHLSVQEACS-KELGSSS----KCKSF-ETVD 94
Glyma13g38750.1  NMGASLQTFPSQDIT-----QLQRQHLSVQEACS-KELGSSS----KCKTF-ETVD 94
Glyma12g10210.1  NMGASLQAFPPQDP-----QSQKQHSFQEPSS-KELGSSS-KCKSIAPF-EAVE 96
Glyma06g46560.1  NMGASLQAFPPQDP-----QSQKQLLSFEPPSSCKELGSSSKCNKIAPFHEAVE 102
Glyma17g12200.1  NMAAAFQSLSWQDV-----QSGGQCNPYRIDTGSTS-KCNNRIAMRAPTT 96
Glyma13g22620.1  NMAAAFQSLSWQDV-----QSGGHCNPYRIDTGSTS-KCNNRIAMRAPTT 96
Glyma03g03500.1  NMRGLLLLPSANQLHLGHTFFTP--QNLMEEIRNAPSTNIMMNQ--LPNPNDLVMSTMRGGP 116
Glyma01g33370.1  NMRGLLLLPSANQLHLGHSFFTP--QNLLEEIRNAPSTNIMMNQ--LPNPNDLVMSTMRGGP 115
Glyma05g04260.1  NMRGLLMPSTQFHLGHSFFSPSHNLEEIPN--PSPNFLMNQTNLSASNEFSMP-ARIAA 115
Glyma17g14710.1  NMRGLLMPSTQFHLGHSFFSPSHNLEEIPN--PTPNFLMNQTNFSASHEFSMP-ARTAA 115
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Glyma12g31670.1  HEQQPRIPPIRPPEKRRVPSAYNRFIKEEIQRIKASNPDISHREAFSTAAKNWAHFPHI 154
Glyma13g38750.1  HDQQPRIPPIRPPEKRRVPSAYNRFIKEEIQRIKASNPDISHREAFSTAAKNWAHFPHI 154
Glyma12g10210.1  HEL-PRIPPIRPTKRRHRVPSAYNRFIKEEIQRIKASNPDISHREAFSSAAKNWAHFPHI 155
Glyma06g46560.1  HEQ-PRIPPIRPTKRRHRVPSAYNRFIKEEIQRIKASNPDISHREAFSSAAKNWAHFPHI 161
Glyma17g12200.1  HVTTEERVVN-RPPEKRRRVPSAYNQFIKEEIQRIKANNPDISHREAFSTAAKNWAHFPHI 155
Glyma13g22620.1  HVTTEERVVN-RPPEKRRRVPSAYNQFIKEEIQRIKANNPDISHREAFSTAAKNWAHFPHI 155
Glyma03g03500.1  EETPKPPSANRPPEKRRVPSAYNRFIKDEIQRIKAGNPDISHREAFSAAKNWAHFPHI 176
Glyma01g33370.1  EETPKPPSANRPPEKRRVPSAYNRFIKDEIQRIKAGNPDISHREAFSAAKNWAHFPHI 175
Glyma05g04260.1  DELPR-PIMNRPPEKRRVPSAYNRFIKDEIQRIKSVNPDITHREAFSAAKNWAHFPHI 174
Glyma17g14710.1  DELPRPPIITNRPPEKRRVPSAYNRFIKDEIQRIKSVNPDITHREAFSAAKNWAHFPHI 175
                .      ** .***:*****:***:*****:  ***:*****:*****:*****

Glyma12g31670.1  HFGLK---LDGNKQAKLD-QGDGTQKSNGFY----- 181
Glyma13g38750.1  HFGLK---LDGNKQAKLD-QGDGTQKSNGFY----- 181
Glyma12g10210.1  HFGLKLNKLDGNKQEKLD-QEGAEKSNGFY----- 185
Glyma06g46560.1  HFGLKLNKLDGNKQEKLD-QEGAEKSNGFY----- 191
Glyma17g12200.1  HFGLM---LESNNQAKMDNVSEKHLMPRAALLNK----- 186
Glyma13g22620.1  HFGLM---LESNNQVKMENVSEKHLMSRAALLNK----- 186
Glyma03g03500.1  HFGLMPDNQPVKKANVR-QEADVLMKDGFFAPANVGVSPY 216
Glyma01g33370.1  HFGLMPDNQPVKKANVR-QEADVLMKDGFFAPANVGVSPY 215
Glyma05g04260.1  HFGLMPD-QTVKKTINVCQQEGEEVLMKDGFFAYASANVGVSPY 214
Glyma17g14710.1  HFGLMPD-QTVKKTINVCQQDGEVLMKDGFFAYASANVGVSPY 215
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Our RNA-Seq data revealed that ten specific members of YABBY transcription factor family expressed during functional transition (stage-4 and stage-5) of soybean seedling development. Two of them showed high sequence homology and they are closely related. These two members of YABBY family possess the short peptide sequence (black rectangle) used for developing the antibody. Thus, our antibody is specific for those two members of YABBY family which showed a clear expression pattern during the functional transition of the cotyledons.