

		10	20	30	40	50	60	70	
I	Pg	PgERF043	LYRGVRCRHW..GKVVSEIRDF	....KNR....TRLW	GTFTDAEEAALAD	QAAYRLRGDAAR....LNFP		58
		PgERF115	LFRGVRQRHW..GKVVSEIRDF	....RNR....ARVW	GTFTDAEEAALAD	TAAAYLLRGGYAN....LNFP		58
		PgERF120	LYRGVRCRHW..GKVVSEIRDF	....QNR....MRVW	GTYTEAEAAAYAD	RAAYKLRGEYAR....LNFP		58
		PgERF143	LYRGVRCRHW..GKVVSEIRDF	....KNR....TRLW	GTFTDAEEAALAD	KAAAYKLRGDFAR....LNFP		58
		PgERF144	LYRGVRCRHW..GKVVSEIRDF	....RNR....TRLW	GTFTDAEEAALAD	DREAYKLRGENAR....LNFP		58
		AT4G28140	LYRGVRCRHW..GKVVSEIRDF	....RSR....ARLW	GTFTDAEEAALAD	TRQAFKLRGSAT....LNFP		58
		AT2G20880	LYRGVRCRHW..GKVVSEIRDF	....RNR....TRLW	GTFTDAEEAALAD	DREAFKLRGETAR....LNFP		58
	At	AT1G36060	LYRGVRCRHW..GKVVSEIRDF	....RNR....TRLW	GTFTDAEEAALAD	DRAAFKLRGDSAR....LNFP		58
		AT2G22200	LYRGVRCRHW..GKVVSEIRDF	....KNR....TRLW	GTFTAEKKAALAD	QAAYKLRGDIAR....LNFP		58
		AT5G65130	LYRGVRCRHW..GKVVSEIRDF	....KNR....TRLW	GTFTAEQAALAD	QAAMKLRGDNAR....LNFP		58
		AT1G22190	LYRGVRCRHW..GKVVSEIRDF	....RNR....TRLW	GTFTDAEEAALAD	KAAAYKLRGDFAR....LNFP		58
		AT1G78080	KYRGVRCRHW..GKVVSEIRDF	....RNR....TRLW	GTFTDAEEAALAD	KAAAYKLRGDFAR....LNFP		58
		AT4G39780	LYRGVRCRHW..GKVVSEIRDF	....KNR....TRLW	GTFTDAEEAALAD	LAAAYKLRGEFAR....LNFP		58
		AT1G64380	LYRGVRCRHW..GKVVSEIRDF	....QNR....MRVW	GTYTEAEAAAYAD	RAAYKLRGEYAR....LNFP		58
AT4G13620	LYRGVRCRHW..GKVVSEIRDF	....RNR....TRVW	GTFTAEQAALAD	TAAAYILRGEFAH....LNFP		58		
II	Pg	PgERF061	KYKGVRRKRW..GKVVSEIRDF	....NSR....DRIW	GSYETPEEAARAD	DAAVFCLRGPSAV....LNFP		58
		PgERF067	RYKGVRRKRW..GKVVSEIRDF	....HSR....DRIW	GSYNTPEEAARAD	DAAVFCLRGPTAV....LNFP		58
		PgERF073	PYKGVRRKRW..GKVVSEIRDF	....NKR....SRIW	GSYSSPVAARAD	TAVFYLRGPSAR....LNFP		58
		PgERF082	KYKGVRRKRW..GKVVSEIRDF	....NSR....DRIW	GSYDSPVKAARAD	DAALFCLRGPTAK....LNFP		58
		PgERF107	KFKGVRRKRW..GKVVSEIRDF	....NQR....TRIW	GSYSTAEAAARAD	DALLCLKGPSAN....LNFP		58
		PgERF110	KYKGVRRKRW..GKVVSEIRDF	....NSR....ERIW	GSFDSAVKAARAD	DAALYCLRGPTAK....LNFP		58
		PgERF126	PYKGVRRKRW..GKVVSEIRDF	....NKR....SRIW	GSYSTAKAARAD	TAVFYLRGPSAR....LNFP		58
	At	PgERF147	PYKGVRRKRW..GKVVSEIRDF	....KTK....KRIW	GSHDSAEEKAARAD	DASYYIHGAEGP....LNFP		57
		AT1G46768	PYKGVRRKRW..GKVVSEIRDF	....NKR....SRIW	GSYTTDIAAARAD	DVAVFYLRGPSAR....LNFP		58
		AT4G06746	KYKGVRRKRW..GKVVSEIRDF	....NKR....SRIW	GSYKTAVAAARAD	TAVFYLRGPSAR....LNFP		58
		AT2G23340	PYKGVRRKRW..GKVVSEIRDF	....NKR....SRIW	GSYATPEAAARAD	TAVFYLRGPSAR....LNFP		58
		AT4G36900	PYKGVRRKRW..GKVVSEIRDF	....NKR....SRIW	GSYSTPEAAARAD	TAVFYLRGPSAR....LNFP		58
		AT5G67190	PYKGVRRKRW..GKVVSEIRDF	....NKR....SRIW	GSYSTPEAAARAD	TAVFYLRGPATAR....LNFP		58
		AT3G50260	PFKGVRRKRW..GKVVSEIRDF	....NKR....SRIW	GSYSTPEAAARAD	TAVFYLRGPATAR....LNFP		58
III	Pg	AT1G21910	KYKGVRRKRW..GKVVSEIRDF	....NQR....TRIW	GSYSTAEAAARAD	DALLCLKGPSAN....LNFP		58
		AT1G77640	KYKGVRRKRW..GKVVSEIRDF	....NQR....TRIW	GSYSTAEAAARAD	DALLCLKGPKAN....LNFP		58
		AT1G44830	KYKGVRRKRW..GKVVSEIRDF	....NQR....TRIW	GSYSTAEAAARAD	DALLCLKGSANN....LNFP		59
		AT4G31060	CYKGVRRKRW..GKVVSEIRDF	....KTG....RRIW	GSYDAEKAARAD	DAALFCLRGKGV....LNFP		58
		AT5G21960	KYTGVRRKRW..GKVVSEIRDF	....NSR....DRIW	GSFDSAEEKAARAD	DAALYCLRGPGAR....LNFP		58
		AT1G19210	KYKGVRRKRW..GKVVSEIRDF	....NSR....ERIW	GSYDTPEKAARAD	DAALYCLRGNNAR....LNFP		58
		AT1G74930	KYKGVRRKRW..GKVVSEIRDF	....HSR....ERIW	GSYDTPEKAARAD	DAALYCLRGNNAR....LNFP		58
	At	AT1G22810	KYKGVRRKRW..GKVVSEIRDF	....GTR....DRIW	GSFSTAEGAAARAD	DVAFFCLHQP.SL..ESLNFP		59
		AT1G71520	KYKGVRRKRW..GKVVSEIRDF	....GTR....QRIW	GSFSTAEGAAARAD	DVAFFCLHQP.SL..ESLNFP		62
		PgERF016	IYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAF....LNFP		58
		PgERF025	IYRGVRRKRW..GKVVSEIRDF	....RSP....NRIW	GTFFTPEMAARAD	DVAALALKGEAE....LNFP		60
		PgERF075	IYRGVRRKRW..GKVVSEIRDF	....NKK....SRIW	GTFFTPEMAARAD	DVAALALKGEAS....LNFP		58
		PgERF079	VYRGVRRKRW..GKVVSEIRDF	....NKK....SRIW	GTFFTPEMAARAD	DVAALALKGRSAC....LNFP		58
		PgERF093	MYRGVRRKRW..GKVVSEIRDF	....MKK....SRIW	GTFFTPEMAARAD	DVAALALKGRSAC....LNFP		58
IV	Pg	PgERF113	VYRGVRRKRW..GKVVSEIRDF	....NKK....SRIW	GTFFTPEMAARAD	DVAALALKGRSAC....LNFP		58
		PgERF118	VYRGVRRKRW..GKVVSEIRDF	....RKT....TRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		57
		PgERF121	LYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
		PgERF122	LYRGVRRKRW..GKVVSEIRDF	....KKK....TRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
		PgERF149	VYRGVRRKRW..GKVVSEIRDF	....RKT....TRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		57
		PgERF158	VYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
		AT1G71450	AYRGVRRKRW..GKVVSEIRDF	....GTK....NRIW	GSFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
	At	AT1G33760	SYRGVRRKRW..GKVVSEIRDF	....GKK....TRIW	GSYETAEMAARAD	DVAALALKGRSAC....LNFP		58
		AT1G01250	VYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GSFVPEMAAARAD	DVAALALKGRSAC....LNFP		58
		AT2G36450	LYRGVRRKRW..GKVVSEIRDF	....RKP....NRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		59
		AT5G52020	IFRGVRRKRW..GKVVSEIRDF	....RKT....TRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		57
		AT1G63040	VYRGVRRKRW..GKVVSEIRDF	....KKT....TRVW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		57
		AT1G12630	VYRGVRRKRW..GKVVSEIRDF	....RKT....TRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		57
		AT5G51990	IYRGVRRKRW..GKVVSEIRDF	....NKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
At	AT4G25490	IYRGVRRKRW..GKVVSEIRDF	....NKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT4G25470	IYRGVRRKRW..GKVVSEIRDF	....NKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT4G25480	IYRGVRRKRW..GKVVSEIRDF	....NKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT1G63030	IYRGVRRKRW..GKVVSEIRDF	....IHQ....RRVW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT1G12610	VYRGVRRKRW..GKVVSEIRDF	....THQ....RRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT2G44940	IYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT3G60490	SYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT3G16280	VYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT1G77200	GYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT2G35700	NFRGVRRKRW..GKVVSEIRDF	....KKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT4G16750	NFRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT5G25810	VYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT5G11590	VYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
	AT2G25820	VYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58	
AT4G32800	VYRGVRRKRW..GKVVSEIRDF	....RKK....SRIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58		
IV	Pg	PgERF128	KYRGVRRKRW..GKVVSEIRDF	....RGN....RIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
		PgERF154	KYRGVRRKRW..GKVVSEIRDF	....RHDGRRG....RFDW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		62
		AT3G11020	SFRGVRRKRW..GKVVSEIRDF	....RIGT....RIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
		AT5G05410	SFRGVRRKRW..GKVVSEIRDF	....NRGS....RIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
	At	AT2G38340	RFRGVRRKRW..GKVVSEIRDF	....SHRGANSSRSKRLW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		66
		AT2G40350	DYTGVRRTW..GKVVSEIRDF	....RGA....KLIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
		AT2G40340	DYTGVRRTW..GKVVSEIRDF	....GGA....RIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
		AT1G75490	TYKGVRRKRW..GKVVSEIRDF	....RGA....RIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
		AT5G18450	TFRGVRRKRW..GKVVSEIRDF	....RGT....RIW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58
		AT3G57600	QYRGVRRKRW..GKVVSEIRDF	....KRR....ARLW	GSFATAEAAALAD	DAALYKLRGHDAY....LNFP		58
		AT2G40220	RYRGVRRKRW..GKVVSEIRDF	....RKR....TKKW	GTFTPEMAAARAD	DVAALALKGRSAC....LNFP		58

YRG element

RAYD element

S4 Fig. Comparison of the amino acid sequences of the protein AP2 domains of the DREB subfamily between ginseng and Arabidopsis. The amino acids highlighted in black color represent the conserved amino acid residues, with 100% similarity. Their conserved YRG and RAYD elements are indicated by brackets.