Supplementary Material Table 3. Subclasses of predicted E-box-binding bHLH proteins.

a. AtbHLH proteins predicted to have G-box-binding capacity.

Amino acid sequences of the bHLH domains of the proteins identified in this study which are predicted to bind G-boxes based on the amino acids located in positions 9-13-17 (K/H-E-R), highlighted in bold letters (See Functional categories section). Proteins are listed according to the Entry Number assigned and their At-bHLH number and PID number are also provided to identify them. Positions within the bHLH are numbered at the top of the figure, below the schematic that indicates the basic, helix and loop regions of the domain.

			BASIC		HELIX	LOOP	HELIX		
	AtbHLH	PID	K						
EN	Number	Number	H 1	0 E R 2	0 3	0 4	0 5	0 6	0
1	55	AAF79643	EPKNKRAK**H**K	EL**E**RQR**R**QEN	TSLFKILRYL	LPSQYIKGKR	SSADHVLEAV	NYIKDLQKKI	K
2	125	AAF75809	DRESKKMK**H**R	DI**E**RQR**R**QEV	SSLFKRLRTL	LPFQYIQGKR	STSDHIVQAV	NYIKDLQIKI	K
3	126	NM118673	NKKKKKLL**H**R	DI**E**RQR**R**QEM	ATLFATLRTH	LPLKYIKGKR	AVSDHVNGAV	NFIKDTQTRK	I
4	120	NP199992	TKKEKKLL**H**R	NI**E**RQR**R**QEM	AILFASLRSQ	LPLKYIKGKR	AMSDHVNGAV	SFIKDTQTRI	K
5	118	NM118672	...MEKLV**H**K	EI**E**KRR**R**QEM	ASLYASLRSL	LPLEFIQGKR	STSDQVKGAV	NYIDYLQRNI	K
6	36	NM124557	...MEKMM**H**R	ET**E**RQR**R**QEM	ASLYASLRSL	LPLHFIKGKR	STSDQVNEAV	NYIKYLQRKI	K
7	100	AAC78547	PVVMKKLN**H**N	AS**E**RER**R**KKI	NTMFSSLRSC	LPPTNQTKKL	SVSATVSQAL	KYIPELQEQV	K
8	38	CAB72167	PVVVKKLN**H**N	AS**E**RDR**R**KKI	NTLFSSLRSC	LPASDQSKKL	SIPETVSKSL	KYIPELQQQV	K
9	39	CAB72168	PVVVKKLN**H**N	AS**E**RDR**R**RKI	NSLFSSLRSC	LPASGQSKKL	SIPATVSRSL	KYIPELQEQV	K
10	101	NM120497	VVLEKKLN**H**N	AS**E**RDR**R**RKL	NALYSSLRAL	LPLSDQKRKL	SIPMTVARVV	KYIPEQKQEL	Q
11	67	CAB71902	EIENQRIN**H**I	AV**E**RNR**R**RQM	NEHINSLRAL	LPPSYIQ.RG	DQASIVGGAI	NYVKVLEQII	Q
12	57	CAB77716	EVENQRMT**H**I	AV**E**RNR**R**RQM	NEHLNSLRSL	MPPSFLQ.RG	DQASIVGGAI	DFIKELEQLL	Q
13	70	AAC33499	EIESQRMT**H**I	AV**E**RNR**R**RQM	NVHLNSLRSI	IPSSYIQ.RG	DQASIVGGAI	DFVKILEQQL	Q
14	97	BAB01355	EVESQRMT**H**I	AV**E**RNR**R**KQM	NEHLRVLRSL	MPGSYVQ.RG	DQASIIGGAI	EFVRELEQLL	Q
15	96	AAG51804	EIENQRMT**H**I	AV**E**RNR**R**KQM	NEYLAVLRSL	MPPYYAQ.RG	DQASIVGGAI	NYLKELEHHL	Q
16	94	NM102098	EIENQRMT**H**I	AV**E**RNR**R**KQM	NEYLAVLRSL	MPSSYAQ.RG	DQASIVGGAI	NYVKELEHIL	Q
17	71	NM124039	EAENQRMT**H**I	AV**E**RNR**R**RQM	NQHLSVLRSL	MPQPFAH.KG	DQASIVGGAI	DFIKELEHKL	L
18	99	BAB11554	DKENQRMN**H**I	AV**E**RNR**R**KQM	NHFLSILKSM	MPLSYSQ.PN	DQASIIEGTI	SYLKKLEQRL	Q
19	98	BAB09783	QDGQQKMS**H**V	TV**E**RNR**R**KQM	NEHLTVLRSL	MPCFYVK.RG	DQASIIGGVV	EYISELQQVL	Q
20	45	AAF30305	......MS**H**I	AV**E**RNR**R**RQM	NEHLKSLRSL	TPCFYIK.RG	DQASIIGGVI	EFIKELQQLV	Q
21	95	AAG13058	EESPDHEI**H**I	WT**E**RER**R**KKM	RDMFSKLHAL	LPQ.LPP.KA	DKSTIVDEAV	SSIKSLEQTL	Q
22	92	BAB11628	PEKERSRR**H**M	LK**E**RTR**R**EKQ	KQSYLALHSL	LPFA...TKN	DKNSIVEKAV	DEAIAKLQRL	Q
26	19	AAC63587	RSPVLAKE**H**V	LA**E**RKR**R**EKL	SEKFIALSAL	LPGL...KKA	DKVTILDDAI	SRMKQLQEQL	R
27	20	AAC63588	REPHLLKE**H**V	LA**E**RKR**R**QKL	NERLIALSAL	LPGL...KKT	DKATVLEDAI	KHLKQLQERV	K
28	18	AAC63586	SSQSNAQD**H**I	LA**E**RKR**R**EKL	TQRFVALSAL	IPGL...KKM	DKASVLGDAI	KHIKYLQESV	K
29	25	CAB38933	RNQSNAQD**H**I	IA**E**RKR**R**EKL	TQRFVALSAL	VPGL...KKM	DKASVLGDAL	KHIKYLQERV	G
30	2	AAB72192	HTRGKPGN**H**A	LS**E**KKR**R**EKL	NERFMTLRSI	IPSI...SKI	DKVSILDDTI	EYLQDLQKRV	Q
31	1	BAB08530	EARDETGN**H**A	VL**E**KKR**R**EKL	NERFMTLRKI	IPSI...NKI	DKVSILDDTI	EYLQELERRV	Q
32	42	CAC14865	RLPREDLS**H**V	VA**E**RRR**R**EKL	NEKFITLRSM	VPFV...TKM	DKVSILGDTI	AYVNHLRKRV	H
33	14	AAB62853	KHHPAVLS**H**V	EA**E**KQR**R**EKL	NHRFYALRAI	VPKV...SRM	DKASLLSDAV	SYIESLKSKI	D
34	3	CAB78685	NGREEALN**H**V	EA**E**RQR**R**EKL	NQRFYALRAV	VPNI...SKM	DKASLLADAI	TYITDMQKKI	R
35	17	AAD20162	NGREEPLN**H**V	EA**E**RQR**R**EKL	NQRFYALRSV	VPNI...SKM	DKASLLGDAI	SYIKELQEKV	K
36	5	BAB08920	NGREEPLN**H**V	EA**E**RQR**R**EKL	NQRFYSLRSV	VPNV...SKM	DKASLLGDAI	SYINELKSKL	Q
37	4	CAA17131	NGREEPLN**H**V	EA**E**RQR**R**EKL	NQRFYSLRAV	VPNV...SKM	DKASLLGDAI	SYISELKSKL	Q
38	6	BAA25078	NGREEPLN**H**V	EA**E**RQR**R**EKL	NQRFYALRAV	VPNV...SKM	DKASLLGDAI	AYINELKSKV	V
39	13	AAF97322	NGRAEALN**H**V	EA**E**RQR**R**EKL	NQRFYALRSV	VPNI...SKM	DKASLLGDAV	SYINELHAKL	K
40	28	BAA97217	HGRDKPLN**H**V	EA**E**RMR**R**EKL	NHRFYALRAV	VPNV...SKM	DKTSLLEDAV	CYINELKSKA	E
51	41	BAA97026	GPSATQLQ**H**M	IS**E**RKR**R**EKL	NESFQALRSL	LPPG...TKK	DKASVLSIAR	EQLSSLQGEI	S
52	134	CAB80472	SKEVAAKK**H**S	DA**E**RRR**R**LRI	NSQFATLRTI	LPNL...VKQ	DKASVLGETV	RYFNELKKMV	Q
53	30	AAF07352	KALAASKS**H**S	EA**E**RRR**R**ERI	NNHLAKLRSI	LPNT...TKT	DKASLLAEVI	QHVKELKRET	S
54	32	BAA95758	KALAASKS**H**S	EA**E**RRR**R**ERI	NTHLAKLRSI	LPNT...TKT	DKASLLAEVI	QHMKELKRQT	S
55	107	CAC00740	KALASLRN**H**K	EA**E**RKR**R**ARI	NSHLNKLRKL	LSCN...SKT	DKSTLLAKVV	QRVKELKQQT	L
56	106	AAD11998	RALAALRN**H**K	EA**E**RRR**R**ERI	NSHLNKLRNV	LSCN...SKT	DKATLLAKVV	QRVRELKQQT	L
57	51	AAD25935	KAESLSRS**H**R	LA**E**KRR**R**DRI	NSHLTALRKL	VPNS...DKL	DKAALLATVI	EQVKELKQKA	A
75	136	AAG28811	KRGQATDS**H**S	LA**E**RVR**R**EKI	NERLKCLQDL	VPGC..YKAM	GMAVMLDVLQ	NQIEFLSMKL	S
76	50	AAF24852	RRGQATDS**H**S	IA**E**RVR**R**GKI	NERLKCLQDI	VPGC..YKTM	GMATMLDEII	NYVQSLQNQV	E
77	44	AAF25996	RRGQATDS**H**S	LA**E**RVR**R**GKI	NERLRCLQDM	VPGC..YKAM	GMATMLDEII	NYVQSLQNQV	E
78	75	NP564229	KRGQATDS**H**S	LA**E**RVR**R**EKI	NERLKCLQDL	VPGC..YKAM	GMAVMLDVII	DYVRSLQNQI	E
79	64	AAD15506	RRGQATDR**H**S	LA**E**RAR**R**EKI	SKKMKYLQDI	VPGC..NKVT	GKAGMLDEII	NYVQCLQRQV	E
80	58	CAB80320	RRGEATDR**H**S	LA**E**RAR**R**EKI	SKKMKCLQDI	VPGC..NKVT	GKAGMLDEII	NYVQSLQQQV	E

EN	AtbHLH Number	PID Number	**BASIC**		**HELIX**	**LOOP**	**HELIX**		
			K **H** 1	0 **E** **R** 2	0 3	0 4	0 5	0 6	0
81	79	BAA97208	RRGQATDR**H**S	LA**E**RAR**R**EKI	SEKMTALQDI	IPGC..NKII	GKALVLDEII	NYIQSLQRQV	E
82	49	AAF07355	RRGQATNS**H**S	LA**E**RVR**R**EKI	SERMKFLQDL	VPGC..NKVT	GKAVMLDEII	NYVQSLQRQV	E
83	76	AAG29214	RRGQATNS**H**S	LA**E**RVR**R**EKI	SERMKFLQDL	VPGC..DKVT	GKAVMLDEII	NYVQSLQCQI	E
84	63	CAA18832	RRGQATDS**H**S	IA**E**RVR**R**EKI	SERMKFLQDL	VPGC..DKIT	GKAGMLDEII	NYVQSLQRQI	E
85	62	AAF02164	RRGQATDS**H**S	LA**E**RVR**R**EKI	SERMKLLQDL	VPGC..NKVT	GKALMLDEII	NYVQSLQRQV	E
86	78	BAB10689	RRGQATDS**H**S	LA**E**RVR**R**EKI	GERMKLLQDL	VPGC..NKVT	GKALMLDEII	NYVQSLQRQV	E
87	77	BAB01846	RRGQATDS**H**S	LA**E**RAR**R**EKI	SERMTLLQDL	VPGC..NRIT	GKAVMLDEII	NYVQSLQRQV	E
88	31	BAA87957	RRGQATDS**H**S	LA**E**RAR**R**EKI	SERMKILQDL	VPGC..NKVI	GKALVLDEII	NYIQSLQRQV	E
89	137	AF428350	RRGQATDS**H**S	LA**E**RVR**R**EKI	SERMRTLQNL	VPGC..DKVT	GKALMLDEII	NYVQTLQTQV	E
90	74	AAC34336	RRGQATNS**H**S	LA**E**RVR**R**EKI	SERMRLLQEL	VPGC..NKVV	TGAVMLDEII	NYVQSLQQQV	E
91	60	CAB67608	RRGQATDS**H**S	LA**E**RAR**R**EKI	NARMKLLQEL	VPGC..DKIQ	GTALVLDEII	NHVQSLQRQV	E
92	7	AAD25805	RRGQATDP**H**S	IA**E**RLR**R**ERI	AERIRSLQEL	VPTV..NK.T	DRAAMIDEIV	DYVKFLRLQV	K
93	59	CAB80752	RRGQATDP**H**S	IA**E**RLR**R**ERI	AERIRALQEL	VPTV..NK.T	DRAAMIDEIV	DYVKFLRLQV	K
94	69	CAA18195	RRGQATDP**H**S	IA**E**RLR**R**ERI	AERMKSLQEL	VPNG..NK.T	DKASMLDEII	DYVKFLQLQV	K
95	66	AAD03387	RRGQATDP**H**S	IA**E**RLR**R**ERI	AERMKALQEL	VPNG..NK.T	DKASMLDEII	DYVKFLQLQV	K
96	82	BAA97525	RRGQATDP**H**S	IA**E**RLR**R**ERI	AERMKSLQEL	VPNT..NK.T	DKASMLDEII	EYVRFLQLQV	K
98	73	BAB10945	KRNIDAQF**H**N	LS**E**KKR**R**SKI	NEKMKALQKL	IPNS..NK.T	DKASMLDEAI	EYLKQLQLQV	Q
99	24	CAB80359	KRCRAAEV**H**N	LS**E**KRR**R**SRI	NEKMKALQSL	IPNS..NK.T	DKASMLDEAI	EYLKQLQLQV	Q
100	8	AAC33213	KRSRSAEV**H**N	LS**E**RRR**R**DRI	NEKMRALQEL	IPNC..NK.V	DKASMLDEAI	EYLKSLQLQV	Q
101	15	AAD24380	KRSRAAEV**H**N	LS**E**RKR**R**DRI	NERMKALQEL	IPRC..NK.S	DKASMLDEAI	EYMKSLQLQI	Q
102	9	AAD22130	RRSRAAEV**H**N	LS**E**RRR**R**DRI	NERMKALQEL	IPHC..SK.T	DKASILDEAI	DYLKSLQLQL	Q
103	65	CAB86934	RRSRAAEV**H**N	LS**E**RRR**R**DRI	NERMKALQEL	IPHC..SR.T	DKASILDEAI	DYLKSLQMQL	Q
104	119	CAA22971	KRSRAADM**H**N	LS**E**RRR**R**ERI	NERMKTLQEL	LPRC..RK.V	DKVSMLEDVI	EYVKSLQLQI	Q
105	138	CAA2297B	KRSRAAEM**H**N	LA**E**RRR**R**EKI	MERNKTLQQL	IPRC..NK.V	DKVSMLEDVI	EYVKSLEMQI	Q
106	56	CAA22972	KRSRTAEM**H**N	LA**E**RRR**R**EKI	NEKMKTLQQL	IPRC..NK.V	EKVSTLDDAI	EYVKSLQSQI	Q
107	23	CAB81467	KRSRAAIM**H**K	LS**E**RRR**R**QKI	NEMMKALQEL	LPRC..TK.T	DRSSMLDDVI	EYVKSLQSQI	Q
108	16	CAB80763	KRSRAAAI**H**N	QS**E**RKR**R**DKI	NQRMKTLQKL	VPNS..SK.T	DKASMLDEVI	EYLKQLQAQV	Q
109	72	BAB08482	RRGRAAAI**H**N	ES**E**RRR**R**DRI	NQRMRTLQKL	LPTA..SK.A	DKVSILDDVI	EHLKQLQAQV	Q
110	124	AAC34226	KRKRSTEV**H**K	LY**E**RKR**R**DEF	NKKMRALQDL	LPNC..YK.D	DKASLLDEAI	KYMRTLQLQV	Q
125	102	AAF07356	KASAIRSK**H**S	VT**E**QRR**R**SKI	NERFQILREL	IPNS..EQKR	DTASFLLEVI	DYVQYLQEKV	Q
126	46	CAB93714	KLNTPRSK**H**S	AT**E**QRR**R**SKI	NDRFQMLRQL	IPNS..DQKR	DKASFLLEVI	EYIQFLQEKA	H
127	141	BAB08642	NRNSCRSK**H**S	ET**E**QRR**R**SKI	NERFQSLMDI	IPQNQNDQKR	DKASFLLEVI	EYIHFLQEKV	H
133	105	BAB09934	CESSATSS**K**A	CR**E**KQR**R**DRL	NDKFMELGAI	LEPG.NPPKT	DKAAILVDAV	RMVTQLRGEA	Q
134	115	AAG50538	ESCTGSNS**K**A	CR**E**KQR**R**DRL	NDKFTELSSV	LEPG.RTPKT	DKVAIINDAI	RMVNQARDEA	Q
135	34	BAA95734	SCSKPG.T**K**A	CR**E**KLR**R**EKL	NDKFMDLSSV	LEPG.RTPKT	DKSAILDDAI	RVVNQLRGEA	H
136	104	CAB78483	SCSRGGGT**K**A	CR**E**RLR**R**EKL	NERFMDLSSV	LEPG.RTPKT	DKPAILDDAI	RILNQLRDEA	L
137	11	AAL55718	KKEAVCSQ**K**A	ER**E**KLR**R**DKL	KEQFLELGNA	LDPN.R.PKS	DKASVLTDTI	QMLKDVMNQV	D
138	121	NM112876	DVSARKSQ**K**A	GR**E**KLR**R**EKL	NEHFVELGNV	LDPE.R.PKN	DKATILTDTV	QLLKELTSEV	N
139	47	NM114632	GKVPKRIN**K**A	VR**E**RLK**R**EHL	NELFIELADT	LELN.Q.QNS	GKASILCEAT	RFLKDVFGQI	E

Total 89 proteins

b. AtbHLH proteins predicted to be Non-G-box binding proteins.

Amino acid sequences of the bHLH domains of proteins predicted to retain the capacity to bind an E-box, based on the conservation of the residues E13 and R16, but lacking the amino acids K/H9 important for the recognition of a G-box.

EN	AtbHLH Number	PID Number	**BASIC**		**HELIX**	**LOOP**	**HELIX**		
			1	0 **E** **R** 2	0 3	0 4	0 5	0 6	0
23	10	AAD20667	GRGSRKSRTS	PT**E**RE**R**RVHF	NDRFFDLKNL	IPNP...TKI	DRASIVGEAI	DYIKELLRTI	E
24	89	AAF80214	GRGSKKRKIF	PT**E**RE**R**RVHF	KDRFGDLKNL	IPNP...TKN	DRASIVGEAI	DYIKELLRTI	D
25	91	AAD20666	GRGKRKNKPF	TT**E**RE**R**RCHL	NERYEALKLL	IPSP...SKG	DRASILQDGI	DYINELRRRV	S
41	35	BAA97365	AASSPASKNI	VS**E**RN**R**RQKL	NQRLFALRSV	VPNI...TKM	DKASIIKDAI	SYIEGLQYEE	K
42	27	CAB43668	ATSPASSKNV	VS**E**RN**R**RQKL	NQRLFALRSV	VPNI...SKL	DKASVIKDSI	DYMQELIDQE	K
43	29	AAC98450	KTKTDRSRTL	IS**E**RR**R**RGRM	KDKLYALRSL	VPNI...TKM	DKASIVGDAV	LYVQELQSQA	K
44	33	AAF78492	KKKGMPAKNL	MA**E**RR**R**RKKL	NDRLYMLRSV	VPKI...SKM	DRASILGDAI	DYLKELLQRI	N
45	116	NM113586	KKKGMPAKNL	MA**E**RR**R**RKKL	NDRLYMLRSV	VPKI...SKM	DRASILGDAI	DYLKELLQRI	N
46	61	CAB89386	KLEGQPSKNL	MA**E**RR**R**RRKL	NDRLSLLRSI	VPKI...TKM	DRTSILGDAI	DYMKELLDKI	N
47	93	NM125962	KLEGQPSKNL	MA**E**RR**R**RKRL	NDRLSMLRSI	VPKI...SKM	DRTSILGDAI	DYMKELLDKI	N
48	21	AAC64222	SGKGSQAKNL	MA**E**RR**R**RKKL	NDRLYALRSL	VPRI...TKL	DRASILGDAI	NYVKELQNEA	K
49	22	CAB79132	EDENFKSPNL	EA**E**RR**R**REKL	HCRLMALRSH	VPIV...TNM	TKASIVEDAI	TYIGELQNNV	K
50	90	AAD39586	PTENFKSKNL	HS**E**RK**R**RERI	NQAMYGLRAV	VPKI...TKL	NKIGIFSDAV	DYINELLVEK	Q
62	103	CAA20199	IDYIKFLQEQ	IT**E**KV**R**KEKL	GDRITALQQL	VSPF...GKT	DTASVLHDAI	DYIKFLQEQI	D
69	130	AAB88652	KRGCATHPRS	IA**E**RV**R**RTRI	SERMRKLQEL	VPNM..DKQT	NTSDMLDLAV	DYIKDLQRQY	K
70	122	AAG50543	KRGCATHPRS	IA**E**RV**R**RTKI	SERMRKLQDL	VPNM..DTQT	NTADMLDLAV	QYIKDLQEQV	K
71	80	AAG12608	KRGCATHPRS	IA**E**RV**R**RTRI	SDRIRRLQEL	VPNM..DKQT	NTADMLEEAV	EYVKALQSQI	Q
72	81	CAB78042	KRGCATHPRS	IA**E**RV**R**RTRI	SDRIRKLQEL	VPNM..DKQT	NTADMLEEAV	EYVKVLQRQI	Q
73	129	AAC64303	KRGFATHPRS	IA**E**RE**R**RTRI	SGKLKKLQEL	VPNM..DKQT	SYADMLDLAV	EHIKGLQHQV	E
74	128	AAF29386	KRGCATHPRS	IA**E**RE**R**RTRI	SGKLKKLQDL	VPNM..DKVT	SYSDMLDLAV	QHIKGLQHQL	Q