

**Supplemental Figure S2.** Alignment of basic and hinge regions of OsbZIP proteins. The OsbZIP proteins are classified into 11 groups (I-XI) according to their DNA binding specificity and amino acid sequences in basic and hinge regions. Conserved amino acids are boxed. Amino acid numbering is according to Suckow et al. (1993). The first leucine in leucine heptad repeats is numbered +1 and the last amino acid of the basic and hinge regions is -1. The basic and hinge regions of some of the already characterized plant bZIP proteins having similar amino acid sequences in the basic-hinge region are also shown with some of the group members for comparison and classification into different groups. Amino acid residues like K and I present in group IX and XI, respectively, are coloured since they differ from the usual R at -10 positions. OsbZIP No. corresponding to the basic and hinge region sequences of OsbZIP proteins and protein names of already characterized OsbZIP proteins are also given on the left hand side.

OsbZIP No.	Protein	BASIC REGION							HINGE		Group
		-30	-25	-20	-15	-10	-5	-1			
		*	*	*	*	*	*	*	*		
<b>Wheat</b>	<b>EmBP-1</b>	DERELKRRERKQSNRESARRSRLRKKQAECEEL									
OsbZIP13		---ERELKKQKRKQSNRESARRSRLRKKQAECEEL								I	
OsbZIP26		---ERELKRQKRKQSNRESARRSRLRKKQAEWEEV									
OsbZIP59		---ERELKRRERKQSNRESARRSRLRKKQAECEEL									
OsbZIP86	<b>OsZIP-1a</b>	---ERELKRQRKQSNRESARRSRLRKKQAECEEL									
OsbZIP45		---ERELKREKRKQSNRESARRSRLRKKQAEEDL									
OsbZIP05	<b>OSBZ8</b>	---DKESKRERKQSNRESARRSRLRKKQAETEEL									
OsbZIP34		---ERELKRRERKQSNRESARRSRLRKKQERPFSFCHPPNYPVTFYGLTNQEQEEL									
<b>Soybean</b>	<b>STF1</b>	---DKESKRLKRLLRNRVSAQQARERKKAYLIDL								II	
OsbZIP01		---DKEQNRLKRLLRNRVSAQQARERKKAYMTEL									
OsbZIP48		---DKEHRRLLKRLLRNRVSAQQARERKKAYMSEL									
OsbZIP18		---DKEHKRLKRLLRNRVSAQQARERKKAYLNDL									
<b>Tobacco</b>	<b>TGA1b</b>	---DEDEKRRARLVNRNSAQLSRQRKKHYVEEL								III	
OsbZIP50		---DDPMSKKRRQMRNRDSAMKSRERKKMYVKDL									
OsbZIP39		---EEDERRAARLMRNRNSAQLSRQRKKRYVEEL									
OsbZIP60		---DDEAKRRARLVNRNSAHLQSRQRKKQYVEEL									
OsbZIP54		---SGDDRRTIRMMRNRNSALRSRARKRAYVEEL									
OsbZIP55		---SGDDRRTIRMMRNRNSALRSRARKRAYVEEL									
OsbZIP56		---SGDDRRTIRMMRNRNSALRSRARKRAYVEEL									
<b>Maize</b>	<b>OPAQUE2</b>	---PTEERVRRKRESNRESARRSRYSRKAHLKEL								IV	
OsbZIP33	<b>REB</b>	---PADQLRQRKQSNRESARRSRSRKAAHLNEL									
OsbZIP15	<b>RISBZ4</b>	---PLDVKVRMRMVSNRNSARRSRKRKQAHLADL									
OsbZIP20	<b>RITA-1</b>	---PLDVKMRMRMVSNRNSARRSRKRKQAHLADL									
OsbZIP88		EDTDPVNAKRTRRMLSNRESARRSRKRKQAHLNDL									
OsbZIP65		---QMDLKRKRKRESNRESAKRSRLRKKQHLDL									
OsbZIP71		---QMEKRRKRKRESNRESARRSRMRKQQLDEL									
OsbZIP14		---LMEQRRAKRMLSNRESARRSRMRKQRHLDDL									
OsbZIP67		---AEEERRRRMVSNRNSARRSRMRKQRQLSEL									
OsbZIP73		---AEEERRRRMISNRNSARRSRMRKQRQLSEL									
OsbZIP22		---LAEERRRRMISNRNSARRSRMRKQQLSEL									
OsbZIP52	<b>RISBZ5</b>	---STETKRIRRMVSNRESARRSRRRKQQLSEL									
OsbZIP58	<b>RISBZ1</b>	---DEEDKVKKRKESNRESARRSRKAAARLKD									
OsbZIP16		---GNDERKKRRLVSNRESARRSRVRKQRRLDEL									
OsbZIP51		---RRDERKERRLASNRNSARRSVRRRRQLDEL									
OsbZIP38	<b>LIP19</b>	---GADERKKRMLSNRESARRSRARKQQLDEL									
OsbZIP87	<b>OsOBF1</b>	---AADHRREKRRLSNRESARRSRLRKKQHLDL									
OsbZIP31		---DADERRLRKKISNRNSARRSRARKQRHLDEL									
OsbZIP89		--ADEERRRRLRRISNRNSARRSRARKQRHLDEL									
OsbZIP32		---EEEEERRRQRKVSNRNSARRSRARKQQLDEL									
OsbZIP57		---EERRRRLRKKISNRNSARRSRARRRQRVEEL									
OsbZIP04		---VMEERKKRRESNRLSAQRSRARKQQLDEL									
OsbZIP27		---AEEEEERQRNRKRSNRLSAQRSRIRKQYVDGL									
<b>Antirrhinum</b>	<b>AmbZIP910</b>	---DDDERKKRKLKSNRESARRSRMRKQQLDEL									

OsbZIP06		----IRDPKRVKRI LANRQSAQR SRVRK LQYISEL	V
OsbZIP19		----IADPKRVKRI LANRQSAQR SRVRK LQYISEL	
OsbZIP02		----TVDPKRVKRI LANRQSAQR SRVRK LQYISEL	
OsbZIP09		----KLMERRQKRMI KNRESAAR SRARKQAYTNEL	
OsbZIP42		----KLVERRQKRMI KNRESAAR SRARKQAYTNEL	
OsbZIP29		----KTVERRKKRMI KNRESAAR SRARKQAYTNEL	
OsbZIP62		----KTVERRQKRMI KNRESAAR SRARKQAYTNEL	
OsbZIP10		----KTVERRQRRMI KNRESAAR SRARKQAYTVEL	
OsbZIP66	<b>TRAB1</b>	----KVVERRQRRMI KNRESAAR SRARKQAYTMEL	
OsbZIP72		----KVVERRQRRMI KNRESAAR SRARKQAYTLEL	VI
OsbZIP46		----KVVERRQRRMI KNRESAAR SRARKQAYIMEL	
OsbZIP23		----KVVERRQRRMI KNRESAAR SRQRKQAYMMEL	
OsbZIP12		----RAAMQRQKRMI KNRESAAR SRERKQAYIAEL	
OsbZIP40		----RAAMQRQKRMI KNRESAAR SRERKQAYIAEL	
OsbZIP77		----AAGDRRKRMI KNRESAAR SRARKQARVNNL	
OsbZIP24		----EEEEKTI RMM KNRESALR SRARKRAYVQEL	
OsbZIP69		----GGVERRKRRAM KNRESAER SRARKQAYLQEL	
<b>Tobacco</b>	<b>TGA1a</b>	<b>SKPVEKVLRR LAQNREAAK SRLRKKAYVQQL</b>	
OsbZIP28		---PMDQKVLRR LAQNREAAK SRLRKKAYVQQL	
OsbZIP63		----LMDQKTIRR LAQNREAAK SRLRKKAYVQQL	
OsbZIP03		----HEDQKTLRR LAQNREAAK SRLRKKAYVQQL	
OsbZIP11		----SVDAKTERR LAQNREAAK SRLRKKAYVQNL	
OsbZIP41		----LLDAKTERR LAQNREAAK SRLRKKAYVQQL	
OsbZIP43		---DKNIRMTLRR LAQNREAAK SRLRKKAYVQQL	
OsbZIP08		----KLDHKTLRR LAQNREAAK SRLRKKAYIQNL	
OsbZIP17		----TPDAKTLRR LAQNREAAK SRLRKKAYIQNL	VII
OsbZIP49		----TPDPKTLRR LAQNREAAK SRLRKKAYIQQL	
OsbZIP70		----TLDPKTLRR LAQNREAAK SRLRKKAYIQQL	
OsbZIP74		----ERDPKTLRR LAQNREAAK SRLRKKAYIQQL	
OsbZIP79		---KALDPKTMRR LAQNREAAK SRLRKKAYIQQL	
OsbZIP83		---KTLDPKIMRR LAQNREAAK SRLRKKAYIQQL	
OsbZIP37		----KPPDKVLRR LAQNREAAK SRLRKKAYIQQL	
OsbZIP64		----KPRDKIQRR LAQNREAAK SRLRKKAYIQNL	
OsbZIP47		----RGDQKMQRRLAQNREAAK SRMRKKAYIQQL	
OsbZIP07		----EELRKTTRKPLGNREAVRKYREKKKAHA AFL	
OsbZIP44		----KEDLTKTRRPLGNREAVRKYREKKKAHA AFL	VIII
OsbZIP53		--SPTENNASKKRPSGNRAAVRKYREKKKAHTASL	
<b>Tobacco</b>	<b>RSG</b>	-----DPKRAKRILANRQSAARSKERKIRYTSSEL	
<b>Arabidopsis</b>	<b>PosF21</b>	-----KRAKRIWANRQSAARSKERKTRYIFEL	
OsbZIP25		----LADPKRVKRVLANRQSAARSKERKMRYIAEL	
OsbZIP78		----LADPKRVKRVLANRQSAARSKERKMRYIAEL	
OsbZIP68		----LTDPKRVKRI LANRQSAARSKERKMRYIQEL	
OsbZIP36		----LVDPKRAKRILANRQSAARSKERKMRYIAEL	
OsbZIP75	<b>RF2a</b>	----LVDPKRAKRIWANRQSAARSKERKMRYIAEL	IX
OsbZIP30	<b>RF2b</b>	----AIDPKRAKRILANRQSAARSKERKARYITEL	
OsbZIP61		----AIDPKRAKRILANRQSAARSKERKARYITEL	
OsbZIP81		----LLDPKRAKRILANRQSAARSKERKIKYTGEL	
OsbZIP84		----LIDPKRAKRILANRQSAARSKERKIKYTSSEL	
OsbZIP35		----LTDPRRVKRI LNNRASATKSKEKMKHV GEL	
OsbZIP76		----LSDPKKVKRVLCNRRSAARSKERRLNYKLEL	
N in core basic region is missing			
OsbZIP82		-----EADTKRAKQQAQR SRVRK LQYIAEL	
OsbZIP85		-----NKLLPPTHFRQYAQR SRVRK LQYIAEL	X
OsbZIP21		-----EKSLKRRSGQR SRVRK LQYIADL	
OsbZIP80	<b>OsZIP-2a</b>	----EKEAKRLRRVLANRESARQTILRRQAIRDEL	XI

#### LITERATURE CITED

Suckow M, von Wilcken-Bergmann B, Muller-Hill B (1993) Identification of three residues in the basic regions of the bZIP proteins GCN4, C/EBP and TAF-1 that are involved in specific DNA binding. EMBO J 12: 1193-1200.