

**Additional file 12.** Location of transcription factors within QTL associated with seedling vigor and stress response.

Trait	QTL ID	Locus ID	Genome Coordinates (bp)	Transcription Factor	
COLDTL-1	AQDU006/CQP1	Os01g67480	39538156-39543486	bHLH (bHLH109)	
		Os01g64000	37501439-37502958	bZIP (ABRE factor)	
		Os01g60020	35021120-35019966	NAC (NAC68)	
		Os01g58420	34093922-34094629	ERF ( <i>AtERF4</i> )	
		Os01g56690	33041606-33043265	bHLH	
		Os01g57580	33599243-33601156	bHLH (bHLH68)	
	AQAV003	Os01g09760	5026872-5033629	MYB	
		Os01g09080	4563224-4565179	WRKY ( <i>WRKY61</i> )	
OSADJCAP-1	AQDX002	Os01g11910	6459511-6461839	bHLH (bHLH37)	
		Os01g09080	4563224-4565179	WRKY ( <i>WRKY61</i> )	
SDLVIG-1	AQFR014/AQFR044	Os01g67480	39538156-39543486	bHLH (bHLH109)	
		Os01g64000	37501439-37502958	bZIP (ABRE factor)	
		Os01g60020	35021120-35019966	NAC (NAC68)	
		Os01g58420	34093922-34094629	ERF ( <i>AtERF4</i> )	
		AQFR003	Os01g09760	5026872-5033629	MYB
SLTSN-1	AQEM001/AQEM009	Os01g64000	37501439-37502958	bZIP ( <i>AREB</i> )	
	AQEM008/qRNTQ-1	Os01g60020	35021120-35019966	NAC (NAC68)	
CHLCN-2	AQCW012	Os02g52780	32270722-32275784	bZIP ( <i>ABI5</i> )	
	AQDB003	Os02g45450	27647111-27647785	ERF ( <i>DREB1A/CBF3</i> )	
	AQCW014	Os02g43790	26417556-26416645	ERF ( <i>AtERF13</i> )	
OSADJCAP-2	CQH6, oa2.1	Os02g45450	27647111-27647785	ERF ( <i>DREB1A/CBF3</i> )	
		Os02g43790	26417556-26416645	ERF ( <i>AtERF13</i> )	
SDLVIG-2	AQFR004	Os02g45450	27647111-27647785	ERF ( <i>DREB1A/CBF3</i> )	
		Os02g43790	26417556-26416645	ERF ( <i>AtERF13</i> )	
		AQFR010	Os02g52780	32275495-32271330	bZIP ( <i>ABI5</i> )
		AQFR032	Os02g41510	24873941-24873047	Myb ( <i>OsMyb4</i> )
CHLCN-3	CQE15	Os02g38130	23060334-23057308	NAC (NAC044)	
		Os03g09170	4760577-4759684	ERF ( <i>AtERF058</i> )	
		Os03g08500	4352514-4351525	ERF ( <i>ERF2</i> )	
		Os03g51580	29467207-29469656	bHLH (bHLH118)	
	AQCW008	Os03g42100	23387610-23389006	bHLH (bHLH131)	
		Os03g21030	11918127-1916817	NAC ( <i>GRAB2</i> )	
LFRL-3	DQE18	Os03g21060	11955043-11953254	NAC	
		Os03g21030	11918127-1916817	NAC ( <i>GRAB2</i> )	
OSADJCAP-3	AQFT003/oa3.11	Os03g21060	11955043-11953254	NAC	
		CQH12	Os03g15660	8616097-8615321	ERF ( <i>RAP2.1/2.9/2.10</i> )
SDLVIG-3	AQEP013	Os03g51580	29467207-29469656	bHLH (bHLH18)	
CHLCN-4	CQE32	Os04g43680	25625690-25624283	Myb ( <i>OsMyb4</i> )	
		AQHf012/QDg4b	Os04g52090	30720217-30720885	AP2/ERF ( <i>AtERF4</i> )
COLDTL-4	AQDU001	Os04g52090	30720217-30720885	AP2/ERF ( <i>AtERF4</i> )	
GERMSP-4	AQFE110/grm4.1	Os04g43680	25625690-25624283	Myb ( <i>OsMyb4</i> )	
SDLVIG-4	AQFR036	Os04g52090	30720217-30720885	AP2/ERF ( <i>AtERF4</i> )	
RELWCN-5	DQE50	Os05g37730	21999887-21998835	Myb ( <i>DIVARICATA</i> )	
SDLVIG-5	AQEP005	Os05g46610	26904355-26905534	Myb ( <i>Myb86</i> )	
	AQEP016	Os05g37730	21999887-21998835	Myb ( <i>DIVARICATA</i> )	

Trait	QTL ID	Locus ID	Genome Coordinates	Transcription Factor
SALTSN-6	AQEM002/qSDS-6	Os06g41100	24567291-24560518	bZIP ( <i>TGA10</i> )
CHLCN-8	CQE69/CQE62	Os08g41320	25970024-25972528	bHLH ( <i>bHLH91</i> )
		Os08g38080	23989017-23991063	bHLH ( <i>bHLH87</i> )
		Os08g38020	23951753-23951061	bZIP ( <i>HY5</i> )
		Os08g36740	23061693-23062433	bHLH ( <i>bHLH121</i> )
OSADJCAP-8	AQDX013	Os08g38080	23989017-23991063	bHLH ( <i>bHLH87</i> )
		Os08g38020	23951753-23951061	bZIP ( <i>AtbZIP48</i> )
		Os08g36740	23061693-23062433	bHLH ( <i>bHLH121</i> )
SDLVIG-8	AQFR050/AQFV024/ AQFV026/AQFV028/ AQFFR013	Os08g43210	27192436-27191681	ERF ( <i>DREB1B/CBF1</i> )
		Os08g43090	27104533-27107970	bZIP ( <i>RF2b-like</i> )
	Os08g43070	27090325-27091116	AtMyc2 ( <i>bHLH11</i> )	
	Os08g42470	26708223-26710453	bHLH ( <i>GBOF-1</i> )	
	AQFV020/AQFV022	Os08g38020	23951753-23951061	bZIP ( <i>AtbZIP48</i> )
	Os08g36740	23061693-23062433	bHLH ( <i>bHLH121</i> )	
CHLCN-9	AQHF039/QDg9 CQE76	Os09g28440	17305162-17305986	ERF ( <i>B-3 group</i> )
		Os09g36730	21190162-21189250	Myb ( <i>Hv1</i> )
		Os09g32510	19405779-19, 07978	bHLH
COLDTL-9	AQAV002	Os09g28440	17305162-17305986	ERF ( <i>B-3 group</i> )
SDLVIG-9	AQEP006	Os09g35020	20399717-20398977	ERF ( <i>DREB1D/CBF4</i> )
		Os09g35010	20395679-20395023	ERF ( <i>DREB1B/CBF1</i> )
	AQEP006	Os09g32510	19405779-19407978	bHLH
	AQFR051	Os09g28440	17305162-17305986	ERF ( <i>B-3 group</i> )
LFRL-9	DQE30/DQE32	Os09g35020	20399717-20398977	ERF ( <i>DREB1D/CBF3</i> )
		Os09g35010	20395679-20395023	ERF ( <i>DREB1B/CBF1</i> )
SALTSN-9	AQEM007/qRNC-9	Os09g28440	17305162-17305986	ERF ( <i>B-3 group</i> )
COLDTL-10	CQAA11	Os10g27360	14105606-14107132	NAC
		Os10g23050	11684489-11686357	bHLH ( <i>bHLH45</i> )
GERMSP-11	CQY5/qLTG11	Os11g45850	27233334-27234376	WRKY ( <i>OsWRKY61</i> )

\*COLDTL (cold tolerance), CHLCN (chlorophyll content), GERMSP (speed of germination), LFRL (leaf rolling), OSADJCAP (osmotic adjustment capacity), RELWCN (relative water content), SALTSN (salt sensitivity), SDLVIG (seedling vigor).