

## Supplementary

**Table 1.** Details of primers used in the qRT-PCR analysis in the study.

Gene	Primers
<i>β-actin</i>	5'ACGGCCTGGATGGCGACGTACATG 3'
	5'GCAGAAGGACGCCTACGTTGGTGAC 3'
<i>SbARF1</i>	5'TCCGAGAGCCCGACGAGTT 3'
	5'TGCGGCCTCAACAACATCC 3'
<i>SbARF2</i>	5'CGCCGTCAAGGAGTCCATG 3'
	5'GCCCGTCCGAAGAGCATTAT 3'
<i>SbARF3</i>	5'CGCGTTTGTCTACCTGAGGAGTG 3'
	5'CGGGTATGTTGATGGCAGGTG 3'
<i>SbARF4</i>	5'CGCCGTGTGTCTGGAGCTG 3'
	5'GGCCGTGAGCGTCTTGACAG 3'
<i>SbARF5</i>	5'GGCGACGGACGAGGTGTAC 3'
	5'CCAAGCCTTAGTTCACCATCATC 3'
<i>SbARF6</i>	5'GGACGAGCCCTTCAGAGTTCAT 3'
	5'CGTTGCTTTCAGTCAGGTTGTTC 3'
<i>SbARF7</i>	5'TGGCAGCCTCGTCGTCTAC 3'
	5'CGCCCACGAAAAGACTCCAC 3'
<i>SbARF8</i>	5'TTGCCTGCGGTCGGTAGTC 3'
	5'TCGGCGTGGAACAGAGAATC 3'
<i>SbARF9</i>	5'TGGGCCGTTGGTCACAGTG 3'
	5'TGCCCTCGAAAGATGTGACG 3'
<i>SbARF10</i>	5'GGCGGACGAGCAGGAGAAG 3'
	5'GCGGAGGAACACGATGGAGTC 3'
<i>SbARF11</i>	5'GCTGCTCCGAAGGTCACATTAG 3'
	5'TTGCCTTGCTGGTCTTGATAATG 3'
<i>SbARF12</i>	5'GGCGAGCGCGTCTATTACTTC 3'
	5'CGCCGTGAGTGCTCGTATCT 3'
<i>SbARF13</i>	5'ACGCCGCCCTGGTGAAGAC 3'
	5'CGGGCTGGAGCTTCTTGTTG 3'
<i>SbARF14</i>	5'GCGGCAATGTCTTCTAGTTATG 3'
	5'CTCCCGTGCAGAAATTGAATC 3'
<i>SbARF15</i>	5'CTGCCAGCTCCATGATGTCAC 3'
	5'CCTCGGAAGATATGCCTGAATT 3'

<i>SbARF16</i>	5' CGCGGACGACAAGACCAAC 3'
	5' GGCGCATGAAGACGACGAT 3'
<i>SbARF17</i>	5' GCCCATGCAGCAGCTAATAACAG 3'
	5' TGGCGAGGGATAAATGAAGAATG 3'
<i>SbARF18</i>	5' TGCGCCACCAACAAATGAGG 3'
	5' GCCGAACCCCAACACGTAAC 3'
<i>SbARF19</i>	5' GCCGGTTCGTCTACTTTCCTC 3'
	5' CGGCGCGGAACAGAGAATC 3'
<i>SbARF20</i>	5' GGCGGAGGATAAGATGTTTGG 3'
	5' GCTCGCCATCACTACCTCTCAG 3'
<i>SbARF21</i>	5' CCGCAGGCACCTTTTAACC 3'
	5' TTGGCTTAATCTGGGGTTGTAGT 3'
<i>SbARF22</i>	5' CGCCGTGCAGCTGAGAAGATAT 3'
	5' GCCTGTGATCGTGCCCATGTAT 3'
<i>SbARF23</i>	5' CGCAAGAAGTGAAGGACCCATAT 3'
	5' GCCCTTGGGTTGTAGAAAATTGT 3'
<i>SbARF24</i>	5' CGCCGGGTTCTCCATGTTC 3'
	5' GCGGAGACAGTGCCCATGAAC 3'
<i>SbARF25</i>	5' CCGCCACATATATCGAGGTCAG 3'
	5' CGCCATTGTGAGTTTTTCCATCT 3'

**Table 2.** The gene-specific probes used in the situ hybridization.

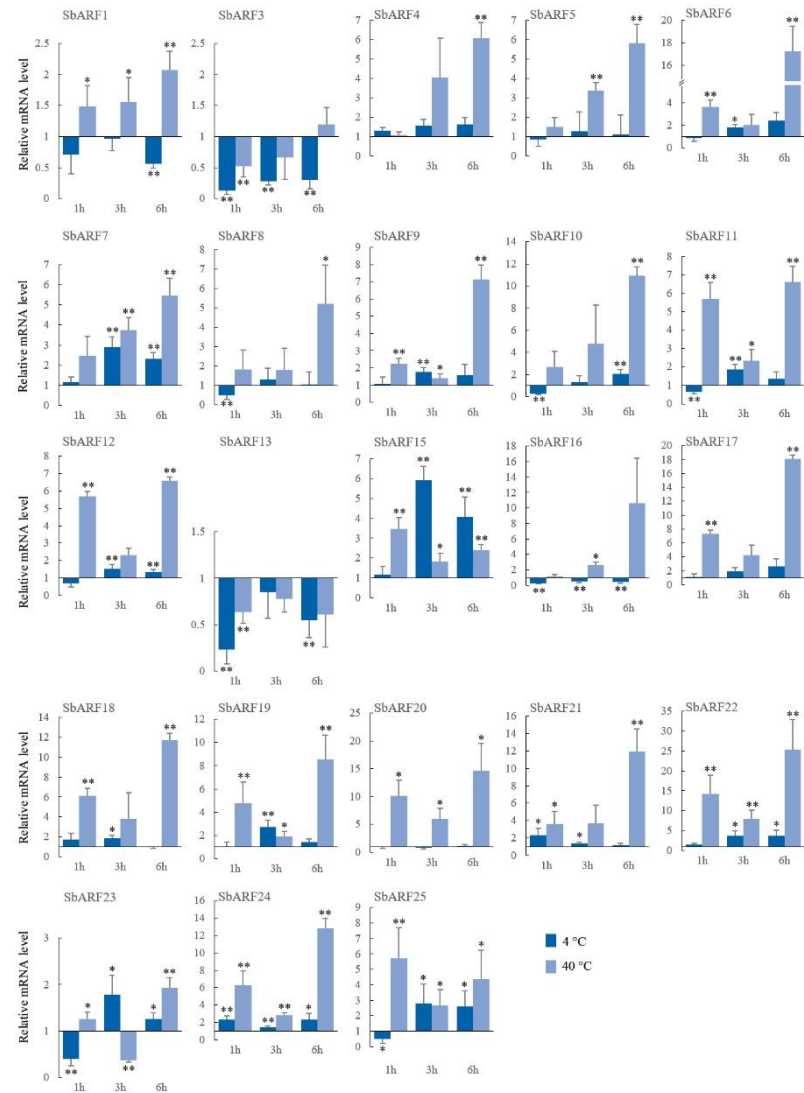
Gene	Probes
<i>ARF3</i>	TCCCCTACTCCCACAGTCATCTTGTGTCAGCAATGCCGCTACTCCTA
<i>ARF15</i>	GCAGTGGGAACAGGGATGGATACATAGGAAAGGTTGTGTCAGTGGCT
<i>ARF17</i>	CGAAAGAATCCTGATGCACCCGGACGCAGT
<i>ARF24</i>	GCACGGTCTGGACGGGCGGGTCGGCGGAGTAG

**Table 3.** The sequence information of 20 motifs.

Discovered Motifs	Sequences	E-value	Sites	Width
1	SFCKTLTASDTSTHGGFSVPRRAAEKCFPLDYSQPPVQELVAKDLHGNEWKFRHIYRGQPRRH LLTTGWSVVFVSAKRL	$9.6 \times 10^{-1367}$	23	80
2	SVLSSDSMHJGVLA AAAHAAATGSPFTVFYNPRASPSEFVVPLAKYLY	$2.7 \times 10^{-535}$	25	51
3	CLNSELWHACAGPLVSLPPVGLVYYFPQGHSEQVAASTBK	$7.0 \times 10^{-522}$	24	41

4	WPNSKWRSLSKVGWDEPTAGZRPNRVSPWEIEP	$6.0 \times 10^{-404}$	24	32
5	PNLPPKLJCRVHNVTLHADPDTDEVYAQITLQP	$1.5 \times 10^{-390}$	24	33
6	WKL VYVDREGDVLLVGDDPWEEFVNSVRCIKILSPEEVQQM	$8.8 \times 10^{-339}$	18	41
7	VGRSLDJTRFSGYEELRAELARMFGIEGZLED	$3.60 \times 10^{-219}$	19	32
8	ISVGMRFKMRFETEES	$2.00 \times 10^{-201}$	24	17
9	VAGDSVLFJRGEGBZLRLGIRANRQQTN	$3.90 \times 10^{-306}$	24	29
10	RRFMGTITGISDLDP	$7.70 \times 10^{-122}$	24	15
11	RVRTFTKVYKSGS	$2.10 \times 10^{-45}$	14	13
12	KDQEVKPSCKLFGISIDSEE	$2.10 \times 10^{-37}$	21	21
13	LTTFPMYPSPFPLRLKRPWPSGLPSLHGG	$6.90 \times 10^{-27}$	4	29
14	GNPGFQSLNFQGLGISPWMQPRLDPSLLGLQPDMYQAMAAAA	$3.60 \times 10^{-26}$	4	42
15	DSSEMENLFKRAMPWLGEEICIKDVQTQN	$5.60 \times 10^{-24}$	4	29
16	KYQBHJSADIDGNYRIPKDAQQEISSMVSQSFGVSDIAFNSDSAINDGPFLNRNSWPPAP	$1.30 \times 10^{-28}$	3	62
17	TVMPGLSLVQWMNMNRQQNSSFGNSGIQSEYLRSLSNPNMQNLGAAELARQLNMQNQJLQQ NSIQFNAPKLPQQMQPINELAKGSLPCNQLGVGKQEQ	$1.90 \times 10^{-18}$	2	143
18	GLEPGQCKVFVESET	$3.50 \times 10^{-18}$	5	15
19	GNPGFSYQCSGFGESVRFQEVLQEQEVR	$8.20 \times 10^{-17}$	4	29
20	AAPFFIPPPFFRPKRPRQPA	$1.00 \times 10^{-15}$	9	21

Background Source : A Alanine, C Cysteine, D Aspartic acid, E Glutamic acid, F Phenylalanine, G Glycine, H Histidine, I Isoleucine, K Lysine, L Leucine, M Methionine, N Asparagine, P Proline, Q Glutamine, R Arginine, S Serine, T Threonine, V Valine, W Tryptophan, Y Tyrosine.



**Figure S1.** Expression of *SbARF* genes in sorghum seedling under cold and heat stress. Data from three biological replicates are displayed with standard deviation. The expression level of *ARF* gene under non-stressed condition was defined as 1. Asterisks on the top of bars indicate significant differences as determined by Student's t-test (\*:  $p < 0.05$ ; \*\*:  $p < 0.01$ ).