

CaWRKY30 Positively Regulates Pepper Immunity by Targeting CaWRKY40 against *Ralstonia solanacearum* Inoculation through Modulating Defense-related Genes

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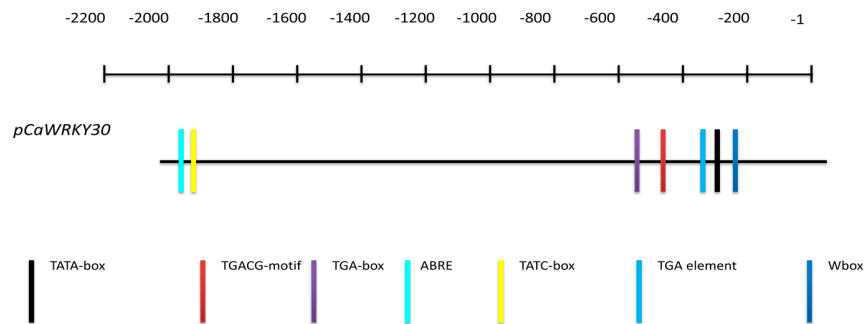
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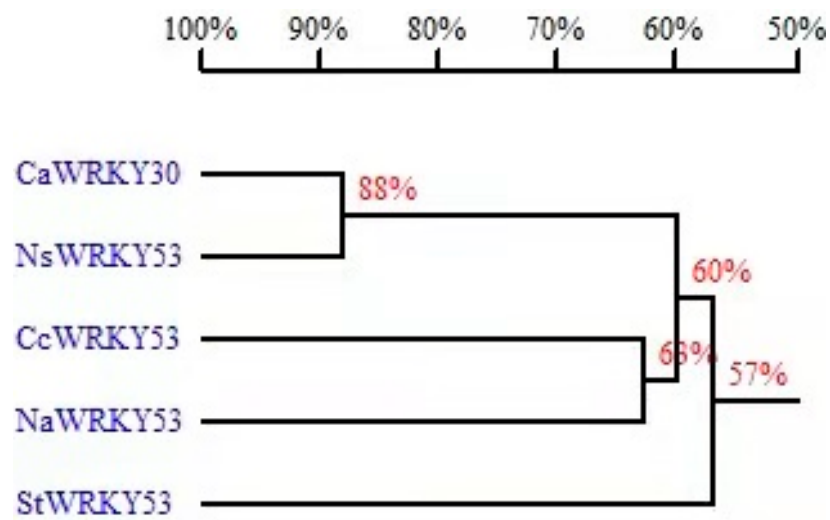
SUPPLEMENTARY MATERIALS

Supplementary Figures



Supplementary Figure S1. Promoter *cis*-elements analysis of *CaWRKY30*

Wbox: transcription factor WRKY binding element; TGA-element: MeJA-relative element; TATC-box: Salicylic responsive; ABRE: Absciscic acid responsive; TGA-box: Auxin responsive; TGACG-motif; TATA-box



Supplementary Figure S2. Dendrogram presenting amino acid similarity of *CaWRKY30* and WRKYs from other species

CaWRKY30 shares 88%, 60%, 68% and 57% amino acid identities to *NsWRKY53*, *CcWRKY53*, *NaWRKY53* and *StWRKY53*, respectively.

Supplementary Table S1. Pepper-specific primers used for construction of the vectors

Gene	Forward primer (5'-3')	Reverse primer (3'-5')	Size (bP)
<i>CaWRKY30</i> ¹	ATGGATTGTGTTTTACCTGGGA	TCAGCCCACTTTGACCT	924
<i>CaWRKY30</i> ²	ATCCGAGAAGCTATTACAG	TCTGAGTCTGAATGGTAC	364
<i>CaWRKY30</i> ³	ATGGATTGTGTTTTACCTGGGA	TCAGCCCACTTTGACCT	924

¹Primers for full length cloning of *CaWRKY30*

²Primers for construction of TRV: *CaWRKY30* vector

³Primers for construction of 35S:*CaWRKY30-GFP*

Supplementary Table S2. Disease index for *Ralstonia* infected pepper plants

score	Condition level
0	Capsicum plants are normal and asymptomatic at 0.
1	Plants with slight withering, the basal 1-2 leaves withered, the top of pepper plant is normal.
2	Leaves in addition to the top leaves, 1: 2 leaves withered, the top of pepper plant is normal.
3	2/3 of the leaves of pepper plant withered while top pepper plant is normal.
4	Most of the leaves were withered including the top leaves
5	Whole plant was withered or dead.

Supplementary Table S3. Primers used in Real time RT PCR analyses

Gene	Accession number	Forward primers (5'-3')	Reverse primers(3'-5')	Size (bp)
	CA01g3448			
<i>CaWRKY30¹</i>	0	CACAGGGAGAGGATTGA	GTAACCTCGCGACAAGT	219
<i>CaPR1</i>	AF348141.1	GCCGTGAAGATGTGGGTCAATGA	TGAGTTACGCCAGACTACCTGAGTA	108
<i>CaNPR1</i>	X61679.1	ACTTCTTCGCCGACGCCAAG	GCCAACACATTACACCAGAGCATC	190
<i>CaDEF1</i>	AF442388	GTGAGGAAGAAGTTTGAAAGAAA GTAC	TGCACAGCACTATCATTGCATACAAT TC	267
<i>CaHIR1</i>	AAX20040	CCTGCAATGTTTGCTCATTGAC	CATGGGAATCGTTGATCTTAATC	164
<i>CaABR1</i>	CA524559	ATGACAGGCACAACAGAAGAAAA T	AATAAGTTATGACAGAGCCATTTT	148
<i>CaActin</i>	GQ339766	AGGGATGGGTCAAAAGGATGC	GAGACAACACCGCCTGAATAGC	225
<i>18srRNA</i>	EF564281	CCGGTCCGCCTATGGTGTGCACCG GTCGTC	GCAGTTGTTCTGCTTTCATAAATCCAA GAA	285
<i>CaWRKY6</i>	KF736800	GGTAGCTAGACAATTATGCTGC	CAAAAAAAAAATCTTATCAACTTG	142
<i>CaWRKY22</i>	CA08g07730	GAGGCTGCACAGCTAGTTCCA C	CACCAAGAACAGAGAGGGG	162
<i>CaWRKY27</i>	DQ102364.1	CTGAGCAAGATGATTCCGAGAA	ATTGGCACTGACACCACTCT	148
<i>CaWRKY40</i>	AAX20040.1	AAGTCCAGCAGAGCAGTCAA	AACAATTGTCTAAGCCATCCG	152

¹Specific primers to detect relative expression of *CaWRKY30* designed according to the sequence of 3'UTR

Specific primers for marker genes