Supplementary data 1

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Supplementary Table S2. Primers used for fusing GFP.

Supplementary Table S3. Primers used for subcloning into pGBKT7.

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Supplementary Table S9. Sequence similarities among the different *MaNAC*s genes.

Supplementary Figure S1. *MaNAC2* promoter activity in response to ethylene in *Arabidopsis* mesophyll protoplasts.

Supplementary Figure S2. Subcellular localization of MaEIL5 in tobacco BY-2 protoplasts.

Supplementary Table S1. Primers used for RACE.

Name	Sequences(5′-3′)
MaNAC1-5RACE1	**TGCCCGCCTTGGTTGT**
MaNAC1-5RACE2	**GCCTTGACATTTCTCCCATAC**
MaNAC2-5RACE1	**CCAGCAGATATGACCTTTGG**
MaNAC2-5RACE2	**TCCTCCTCTACTGCCACC**
MaNAC5-5RACE1	**CCCAAGGTTCGCACTTGT**
MaNAC5-5RACE2	**CCGCGAGGTAGTCGCAGATG**
MaNAC6-3RACE1	**CTTCGCCACTGGACCTCCTTATG**
MaNAC6-3RACE2	**GGTTCATCATTCTCCACACTCCC**

Supplementary Table S2. Primers used for fusing GFP.

Name	Sequences(5′-3′)	Restriction Site
MaNAC1-GFPFor	Aggatcc**ATGGTTCTAATCACCAAGAAATCACA**	***BamH* I**
MaNAC1-GFPRev	Aaagctt**AGAAAGAAAGGAGGCACCACCTGTAT**	***Hind* Ⅲ**
MaNAC2-GFPFor	Aggatcc**ATGGATTCGAGTGGAGAGCAGCAGGT**	***BamH* I**
MaNAC2-GFPRev	Aaagctt**AGTGTATCTACAACAAGAGGCCATGT**	***Hind* Ⅲ**
MaNAC3-GFPFor	Aggatcc**ATGGAATTGCCGCCTGGGTTTCGATT**	***BamH* I**
MaNAC3-GFPRev	Aaagctt**TATGGATTTCATCTCGGCGGTGAGC**	***Hind* Ⅲ**
MaNAC4-GFPFor	Aggatcc**ATGGAGGAGAGGATGGGCAAGAGGGG**	***BamH* I**
MaNAC4-GFPRev	Aaagctt**ATCTGTTATGAAGTCCATAATCCTTC**	***Hind* Ⅲ**
MaNAC5-GFPFor	Aggatcc**ATGAGCATCTTGAGCATGGTGGAGGC**	***BamH* I**
MaNAC5-GFPRev	Aaagctt**AAAAGGATTCCATGTTGATGCCAGAG**	***Hind* Ⅲ**
MaNAC6-GFPFor	Aggatcc**ATGGGACTGAGGGACATAGAGTCCAC**	***BamH* I**
MaNAC6-GFPRev	Aaagctt**GCCTGCTGTAGCATCCAACCTTGCCA**	***Hind* Ⅲ**

Supplementary Table S3. Primers used for subcloning into pGBKT7.

Name	Sequences(5′-3′)	Restriction Site
MaNAC1-BDFor	Acatatg**ATGGTTCTAATCACCAAGAAATCACA**	***Nde* I**
MaNAC1-BDRev	Aggatcc**AGAAAGAAAGGAGGCACCACCTGTAT**	***BamH* I**
MaNAC2-BDFor	Acatatg**ATGGATTCGAGTGGAGAGCAGCAGGT**	***Nde* I**
MaNAC2-BDRev	Aggatcc**AGTGTATCTACAACAAGAGGCCATGT**	***BamH* I**
MaNAC3-BDFor	Acatatg**ATGGAATTGCCGCCTGGGTTTCGATT**	***Nde* I**
MaNAC3-BDRev	Aggatcc**TATGGATTTCATCTCGGCGGTGAGC**	***BamH* I**
MaNAC4-BDFor	Acatatg**ATGGAGGAGAGGATGGGCAAGAGGGG**	***Nde* I**
MaNAC4-BDRev	Aggatcc**ATCTGTTATGAAGTCCATAATCCTTC**	***BamH* I**
MaNAC5-BDFor	Acatatg**ATGAGCATCTTGAGCATGGTGGAGGC**	***Nde* I**
MaNAC5-BDRev	Aggatcc**AAAAGGATTCCATGTTGATGCCAGAG**	***BamH* I**
MaNAC6-BDFor	Acatatg**ATGGGACTGAGGGACATAGAGTCCAC**	***Nde* I**
MaNAC6-BDRev	Aggatcc**GCCTGCTGTAGCATCCAACCTTGCCA**	***BamH* I**

Supplementary Table S4. Primers used for quantitative real-time PCR analysis.

Name	Forward primer(5′-3′)	Reverse primer(5′-3′)
MaNAC1	GCGGTCATCGCATTCAGT	ATGAGAGGGTGAAGCTTGTGAG
MaNAC2	CAAGCTACCTTCAGGGAG	CATGGGAGCTTGTGCTAT
MaNAC3	TGCAGTGCAGAGAGGGAGCTGG	GTTTGACATGACGGAAGTG
MaNAC4	CGGAAGGATTATGGACTT	TAGCGTAGGTTTACATTTAGGA
MaNAC5	GACCAAACCCCACTCAAC	AAAAGGATTCCATGTTGA
MaNAC6	TCCCACCTTGGGGTCATCTTC	ATGATGAACCCAACTGTTCATGGCACACA

Supplementary Table S5. Primers used for promoter isolation of *MaNAC2*.

Name	Sequences(5’-3’)
MaNAC2-P1	**CCGGATCTGGTGACCCTGTTAGG**
MaNAC2-P2	**GAAACCCTTCTTCTCCACCTTCC**
MaNAC2-PFor	**GAAACCCTTCTTCTCCACCTTCCTCC**
MaNAC2-PRev	**ACATTTGTAATCGGAAGACGAGAAAT**

Supplementary Table S6. Primers used for *MaNAC2* promoter fusing with GFP.

Name	Sequences(5'-3')	Restriction Site
MaNAC2PRO-GFPFor	**Aaagcttt**GAAACCCTTCTTCTCCACCTTCC	***Hind*** Ⅲ
MaNAC2PRO-GFPRev	**Agtcgac**ACATTTGTAATCGGAAGACGAGA	***Sal*** **I**

Supplementary Table S7. Primers used for Yeast Two-Hybrid analysis.

Name	Sequences(5'-3')	Restriction Site
MaNAC1-Y2HFor	Atctaga ATGGTTCTAATCACCAAGAAATCACA	***Nde* I**
MaNAC1-Y2HRev	Agtcgac AGAAAGAAAGGAGGCACCACCTGTAT	***BamH* I**
MaNAC2-Y2HFor	Atctaga ATGGATTCGAGTGGAGAGCAGCAGGT	***Nde* I**
MaNAC2-Y2HRev	Agtcgac AGTGTATCTACAACAAGAGGCCATGT	***BamH* I**
MaNAC3-Y2HFor	Atctaga ATGGAATTGCCGCCTGGGTTTCGATT	***Nde* I**
MaNAC3-Y2HRev	Agtcgac TATGGATTTCATCTCGGCGGTGAGC	***BamH* I**
MaNAC4-Y2HFor	Atctaga ATGGAGGAGAGGATGGGCAAGAGGGG	***Nde* I**
MaNAC4-Y2HRev	Agtcgac ATCTGTTATGAAGTCCATAATCCTTC	***BamH* I**
MaNAC5-Y2HFor	Atctaga ATGAGCATCTTGAGCATGGTGGAGGC	***Nde* I**
MaNAC5-Y2HRev	Agtcgac AAAAGGATTCCATGTTGATGCCAGAG	***BamH* I**
MaNAC6-Y2HFor	Atctaga ATGGGACTGAGGGACATAGAGTCCAC	***Nde* I**
MaNAC6-Y2HRev	Agtcgac GCCTGCTGTAGCATCCAACCTTGCCA	***BamH* I**
MaEIL5-Y2HFor	Atctaga ATGATGGGTGGGCTATTAATGGAAG	***Nde* I**
MaEIL5-Y2HRev	Agtcgac GTAAAACCAGTTGGCTGCTTCGGCC	***BamH* I**

Supplementary Table S8. Primers used for BiFC assays.

Name	Sequences(5'-3')	Restriction Site
MaNAC1-BiFCFor	Atctaga ATGGTTCTAATCACCAAGAAATCACA	***Xba* I**
MaNAC1-BiFCRev	Agtcgac AGAAAGAAAGGAGGCACCACCTGTAT	***Sal* I**
MaNAC2-BiFCFor	Atctaga ATGGATTCGAGTGGAGAGCAGCAGGT	***Xba* I**
MaNAC2-BiFCRev	Agtcgac AGTGTATCTACAACAAGAGGCCATGT	***Sal* I**
MaEIL5-BiFCFor	Acatatg ATGATGGGTGGGCTATTAATGGAAG	***Xba* I**
MaEIL5-BiFCRev	Agtcgac GTAAAACCAGTTGGCTGCTTCGGCC	***Sal* I**

Supplementary Table S9. Sequence similarities among the different *MaNACs* genes. Numbers indicate percentage homology at the amino acid level.

	MaNAC1	MaNAC2	MaNAC3	MaNAC4	MaNAC5	MaNAC6
MaNAC1	**100**					
MaNAC2	**23**	**100**				
MaNAC3	**27**	**29**	**100**			
MaNAC4	**20**	**66**	**33**	**100**		
MaNAC5	**25**	**30**	**38**	**32**	**100**	
MaNAC6	**21**	**27**	**36**	**35**	**46**	**100**

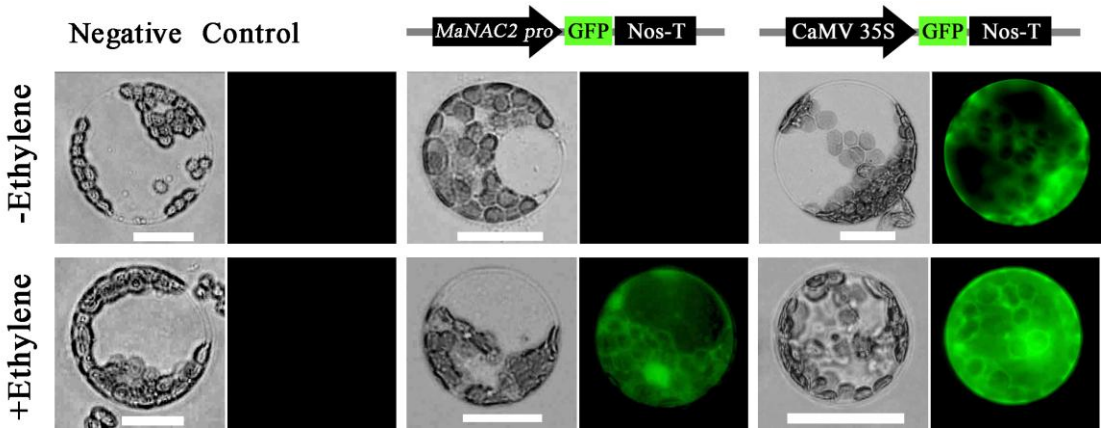

Figure S1. *MaNAC2* promoter activity in response to ethylene. GFP reporter constructs that contained the *MaNAC2* promoter (*MaNAC2pro*::GFP) and the CaMV 35S promoter (35S::GFP, positive control) were transiently transformed into *Arabidopsis* mesophyll protoplasts by a modified polyethylene glycol method and test for ethylene induction. No transformed protoplasts were used as negative control. After incubation for 12 h, GFP fluorescence was observed by fluorescence microscopy. The length of the bar indicated in the photographs is 25 μm. The experiment was repeated at least three times.

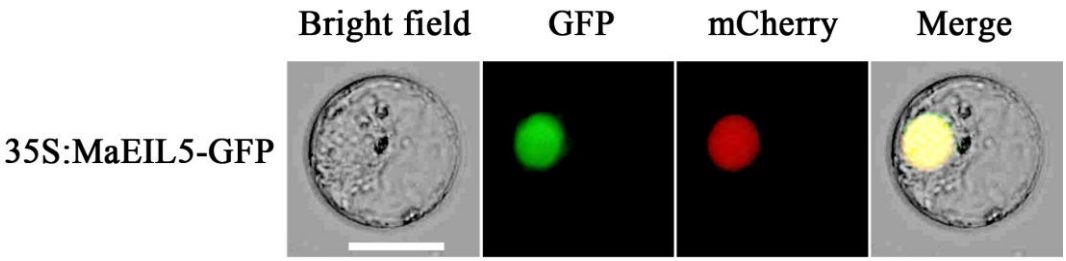

Figure S2. Subcellular localization of MaEIL5 in tobacco BY-2 protoplasts. The protoplasts were transiently transformed with MaEIL5-GFP or GFP vector by a modified polyethylene glycol method. GFP fluorescence was observed with a fluorescence microscope. The VirD2NLS-mCherry was included in each transfection to serve as a control for successful transfection as well as for nuclear localization. Images were taken in the dark field for green fluorescence, while the outline of the cell and the combination were photographed in a bright field. The length of the bar indicated in the photographs is 25 μm.

Supplementary data 2

GenBank accession numbers of Arabidopsis and rice NAC proteins used for phylogenetic tree of NACs: ANAC001 At1g01010.1, ANAC002 At1g01720.1, ANAC003 At1g02220.1, ANAC004 At1g02230.1, ANAC005 At1g02250.1, ANAC006 At1g03490.1, ANAC007 At1g12260.1, ANAC008 At1g25580.1, ANAC009 At1g26870.1, ANAC010 At1g28470.1, ANAC011 At1g32510.1, ANAC012 At1g32770.1, ANAC013 At1g32870.1, ANAC014 At1g33060.1, ANAC015 At1g33280.1, ANAC016 At1g34180.1, ANAC017 At1g34190.1, ANAC018 At1g52880.1, ANAC019 At1g52890.1, ANAC020 At1g54330.1, ANAC021 At1g56010.1, ANAC022 At1g56010.2, ANAC023 At1g60280.1, ANAC024 At1g60350.1, ANAC025 At1g61110.1, ANAC026 At1g62700.1, ANAC027 At1g64105.1, ANAC028 At1g65910.1, ANAC029 At1g69490.1, ANAC030 At1g71930.1, ANAC031 At1g76420.1, ANAC032 At1g77450.1, ANAC033 At1g79580.1, ANAC034 At2g02450.1, ANAC035 At2g02450.2, ANAC036 At2g17040.1, ANAC037 At2g18060.1, ANAC038 At2g24430.1, ANAC039 At2g24430.2, ANAC040 At2g27300.1, ANAC041 At2g33480.1, ANAC042 At2g43000.1, ANAC043 At2g46770.1, ANAC044 At3g01600.1, ANAC045 At3g03200.1, ANAC046 At3g04060.1, ANAC047 At3g04070.1, ANAC048 At3g04420.1, ANAC049 At3g04430.1, ANAC050 At3g10480.1, ANAC051 At3g10490.1, ANAC052 At3g10490.2, ANAC053 At3g10500.1, ANAC054 At3g15170.1, ANAC055 At3g15500.1, ANAC056 At3g15510.1, ANAC057 At3g17730.1, ANAC058 At3g18400.1, ANAC059 At3g29035.1, ANAC060 At3g44290.1, ANAC061 At3g44350.1, ANAC062 At3g49530.1, ANAC063 At3g55210.1, ANAC064 At3g56530.1, ANAC065 At3g56560.1, ANAC066 At3g61910.1, ANAC067 At4g01520.1, ANAC068 At4g01540.1, ANAC069 At4g01550.1, ANAC070 At4g10350.1, ANAC071 At4g17980.1, ANAC072 At4g27410.2, ANAC073 At4g28500.1, ANAC074 At4g28530.1, ANAC075 At4g29230.1, ANAC076 At4g36160.1, ANAC077 At5g04400.1, ANAC078 At5g04410.1, ANAC079 At5g07680.1, ANAC080 At5g07680.2, ANAC081 At5g08790.1, ANAC082 At5g09330.1, ANAC083 At5g13180.1, ANAC084 At5g14000.1, ANAC085 At5g14490.1, ANAC086 At5g17260.1, ANAC087 At5g18270.1, ANAC088 At5g18300.1, ANAC089 At5g22290.1, ANAC090 At5g22380.1, ANAC091 At5g24590.2, ANAC092 At5g39610.1, ANAC093 At5g39690.1, ANAC094 At5g39820.1, ANAC095 At5g41090.1, ANAC096 At5g46590.1, ANAC097 At5g50820.1, ANAC098 At5g53950.1,

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