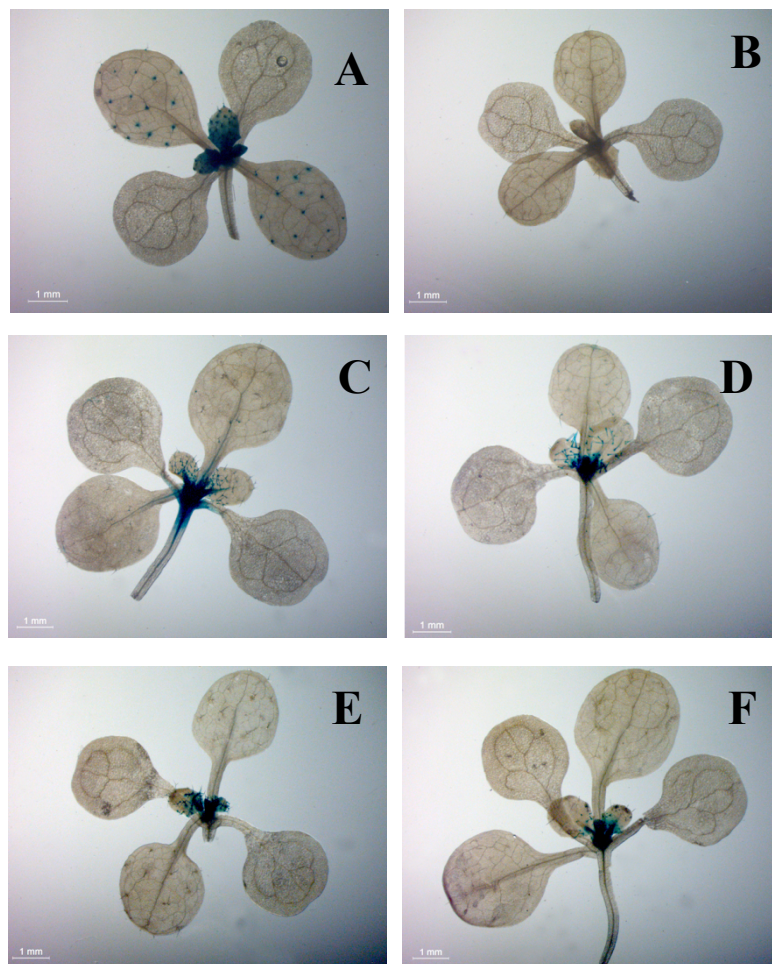# Figure S1

Figure S1: *TRY* but not *GL2* or *CPC* expression depends on *TTG2*

Expression pattern of the 5′ regulatory regions of the *GL2*, *CPC* and *TRY* promoter in Ler and *ttg2* background as revealed by GUS reporter gene expression. Whole rosettes are shown. pTRY:GUS L*er* (A), pTRY:GUS *ttg2* (B), pCPC:GUS L*er* (C), pCPC:GUS *ttg2* (D), pGL2:GUS L*er* (E), pGL2:GUS *ttg2* (F). Bars indicate the magnification of the images.
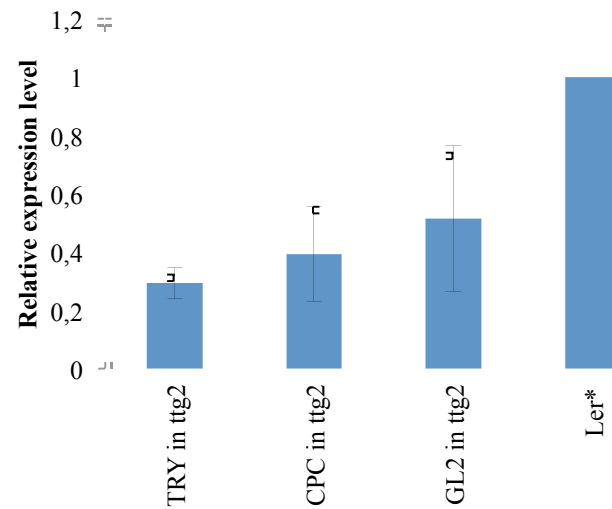
Figure S2: Analysis of TRY, CPC and GL2 expression by Real Time PCR.
TRY, CPC and *GL2* expression in 10-day-old leaves three and four in *ttg2* mutants were analyzed by quantitative real-time PCR. *The expression levels were normalized to that of the respective genes in L*er*. The *18s-RNA* was used as an endogenous control. Error bars indicate the standard deviation of two biological replicas including three technical replicas. The expression of TRY, CPC and GL2 were significantly reduced compared to wild type (Student´s T-test, p<0,01).
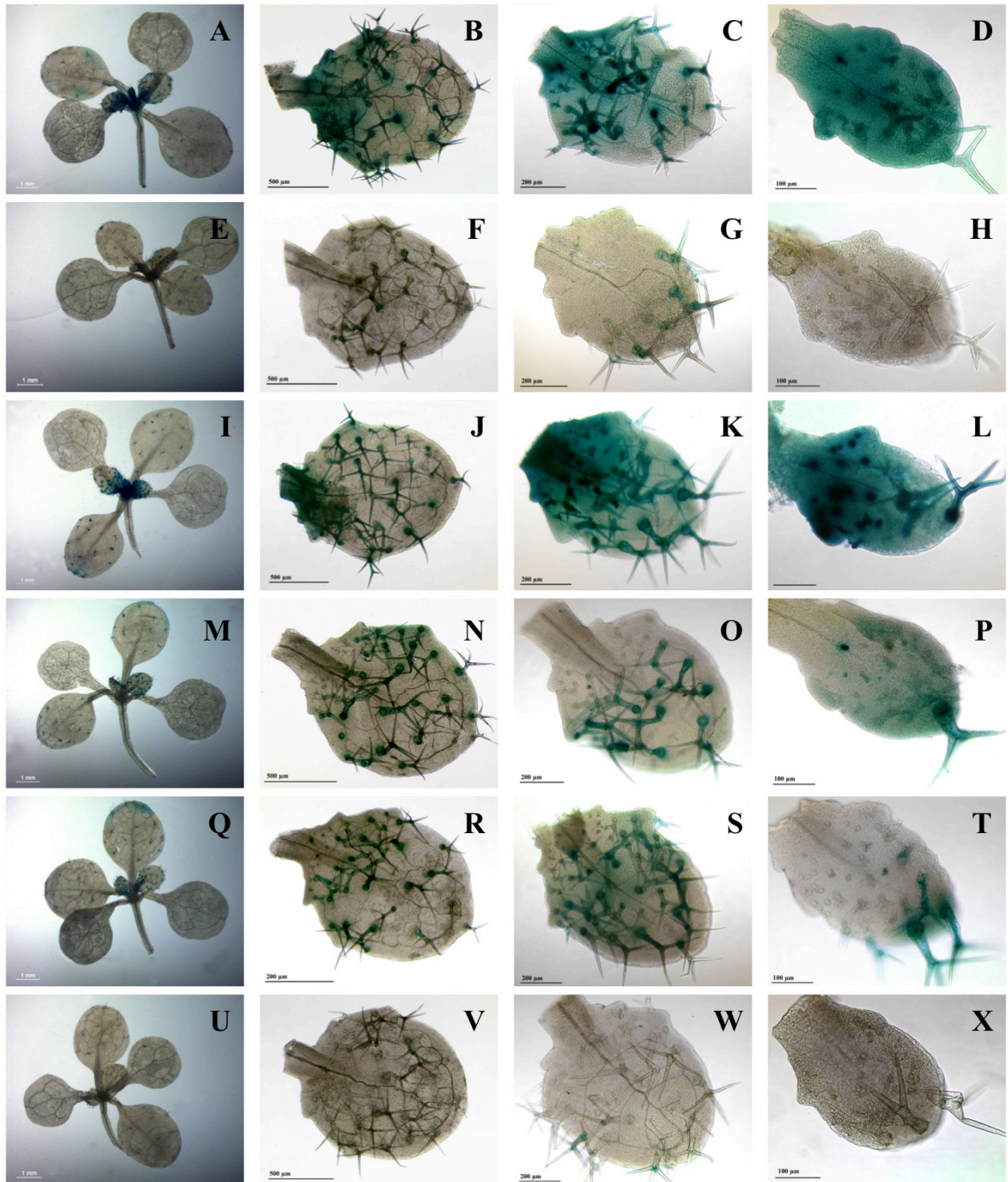
Figure S3: Expression analysis of *TRY* promoter fragments carrying mutations in W-boxes.

The expression pattern is shown for 10 days old plants: the whole rosette, and leaf number three to five to document different leaf developmental stages with leaf number three representing a mature leaf, leaf number four for an intermediate developmental stage and leaf number five to show a young leaf. A-D) pTRY-A3,B:GUS, E-H); pTRY-A3,B (Δ234-176):GUS; I-L) pTRY-A3,B:GUS; M-P) pTRY-A3,B(mW1):GUS. The examples show leaves lacking the TRY expression at the leaf base. Q-T) pTRY-A3,B(mW2):GUS. These examples show trichome specific expression but no epidermal expression at all stages. U-X) pTRY-A3,B(mW1mW2):GUS.

Figure S4

W1W2	**GAGTGTCAACGACAAGTCTACACAAAGGGTAAGAGGTCAACAAG**
mW1mW2	**GAGTCCCGGCGACAAGTCTACACAAAGGGTAAGAGCCCGGCAAG**
mW1W2	**GAGTCCCGGCGACAAGTCTACACAAAGGGTAAGAGGTCAACAAG**
W1mW2	**GAGTGTCAACGACAAGTCTACACAAAGGGTAAGAGCCCGGCAAG**
W1	**TTTGAGTGTCAACGACAAG**
mW1	**TTTGAGTCCCGGCGACAAG**
W2	**GTAAGAGGTCAACAAGACC**
mW2	**GTAAGAGCCCGGCAAGACC**
1XW2*	**TTATTCAGCCATCAAAAGTTGACCAATAAT**
m19**	**TTATTCAGCCATCAAAAGTAGACCAATAAT**

Figure S4: Sequences of wild type and mutated W-boxes of the *TRY* promoter.
The region of the *TRY* promoter containing the wild-type and mutated sequences of the two W-boxes are shown. The W-Boxes are shown in red and the mutated W-boxes in a lighter grey. * The sequence 1xW2 was published previously and is identical to the region of he parsley *PR1-1* promoter that contains the W-Box W2 (Ciolkowski et al., 2008). ** m19 is a base substitution variant of 1xW2 that abolish binding specificity (Ciolkowski et al., 2008).

Figure S5

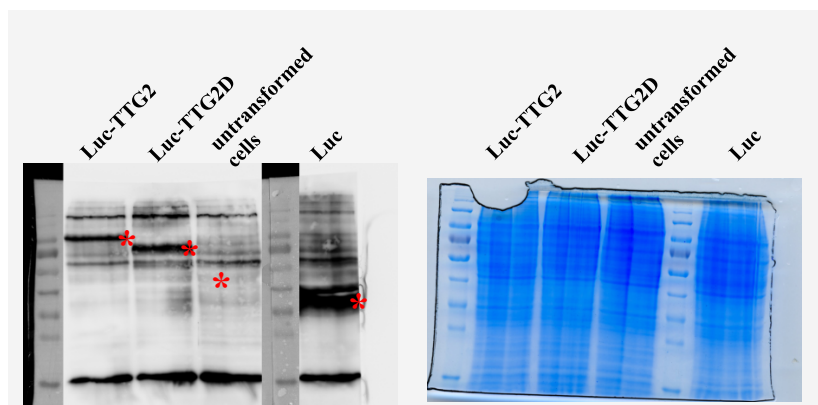**Figure S5:** Integrity and functionality of Luc-TTG2 and Luc-TTG2D fusion proteins.
Western blot (left) and the corresponding Coomassie gel (right) showing the protein extract of HEC cells expressing Luc-TTG2 and Luc-TTG2D proteins. The luciferase antibody detects the two proteins at the expected size indicating that the presence of full-length fusion proteins. Asterisk (*) indicates the respective expressed protein band.
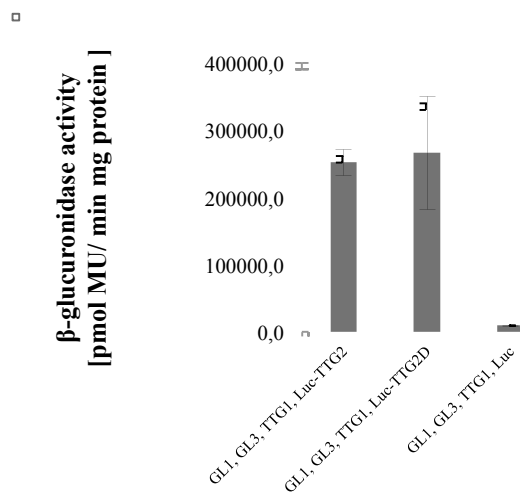
Figure S6

Figure S6: Expression levels of promoter:GUS constructs

Arabidopsis cell suspension cultures were transformed with the pTRY:GUS construct along with 35S:cDNAs of GL1, GL3, TTG1 and TTG2. The relative expression levels of the promoter:GUS constructs were determined by b-glucoronidase assays in three independent experiments. Error bars indicate the standard deviation.

Figure S7

Gal4-AD-GL1
Gal4-AD- MYB23(Δ194-219)
Gal4-AD-GL1(Δ202-228)
Gal4-AD-WER
Gal4-AD- WER(Δ180-203)
Gal4-AD-TTG1
Gal4-AD-TTG2
Gal4-AD-GL2
Gal4-AD-TRY
Gal4-AD-CPC
Gal4-AD-ETC1

SD-LW

Gal4-AD-ETC2
Gal4-AD-ETC3
Gal4-AD-GL3
Gal4-AD-EGL3
Gal4-AD-MYC1
Gal4-AD-TT8
Gal4-AD-GL3 (Δ1-96)
Gal4-AD-GL3 (Δ1-400)
Gal4-AD-SNF4
Gal4-AD*
Gal4-AD-TTG2 (Δ1-80)

Gal4-BD-TTG2

Gal4-AD-GL1
Gal4-AD- MYB23(Δ194-219)
Gal4-AD-GL1(Δ202-228)
Gal4-AD-WER
Gal4-AD- WER(Δ180-203)
Gal4-AD-TTG1
Gal4-AD-TTG2
Gal4-AD-GL2
Gal4-AD-TRY
Gal4-AD-CPC
Gal4-AD-ETC1

SD-LWH
10mM 3-AT

Gal4-AD-ETC2
Gal4-AD-ETC3
Gal4-AD-GL3
Gal4-AD-EGL3
Gal4-AD-MYC1
Gal4-AD-TT8
Gal4-AD-GL3 (Δ1-96)
Gal4-AD-GL3 (Δ1-400)
Gal4-AD-SNF4
Gal4-AD*
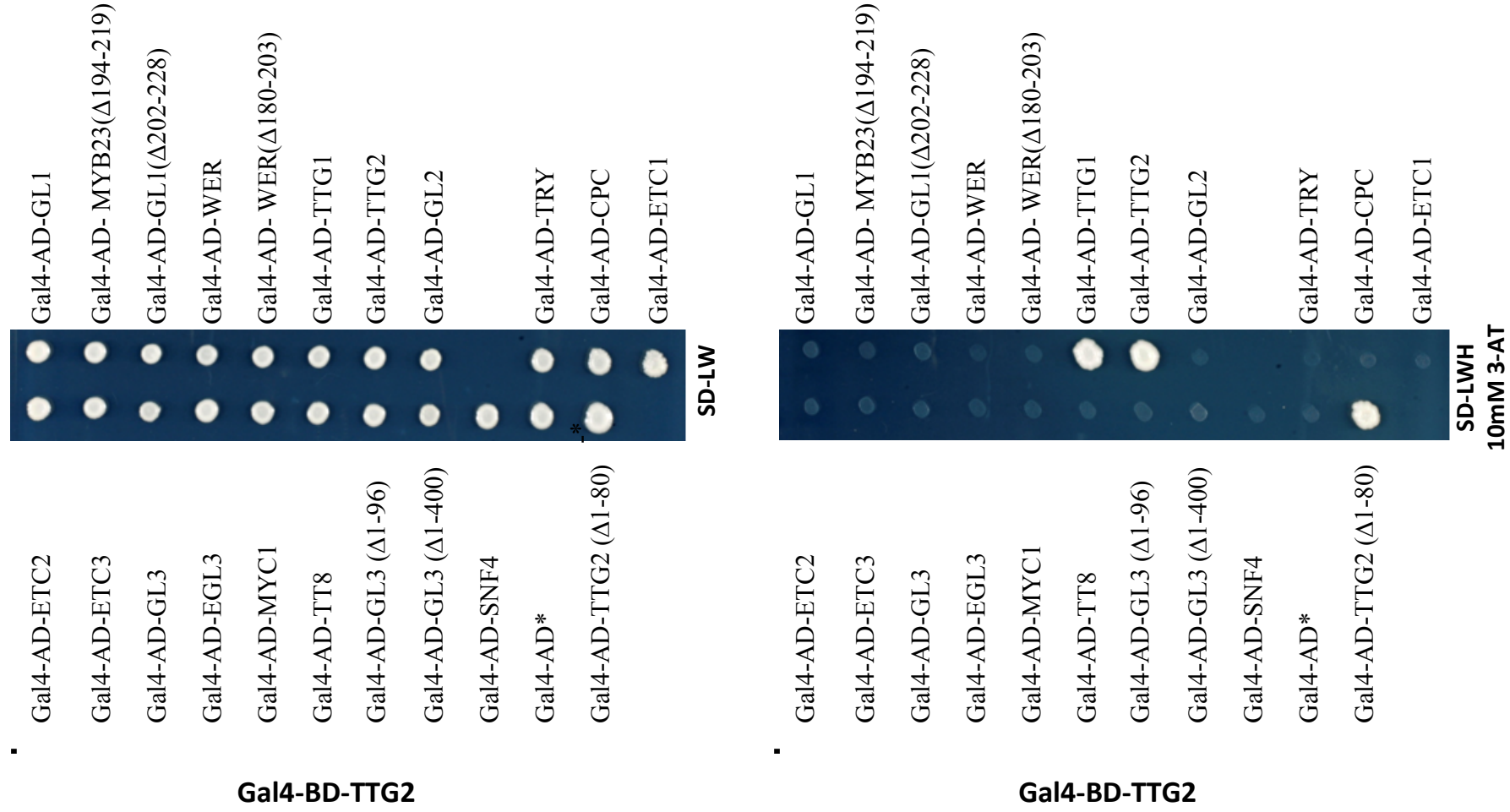Gal4-AD-TTG2 (Δ1-80)

Gal4-BD-TTG2

Figure S7: Yeast two hybrid interactions of TTG2-BD with other trichome patterning proteins. Interaction of TTG2 fused to the DNA binding domain with other trichome and root hair patterning proteins as indicated. Asterisk (*) indicates control construct without CDS fusion.
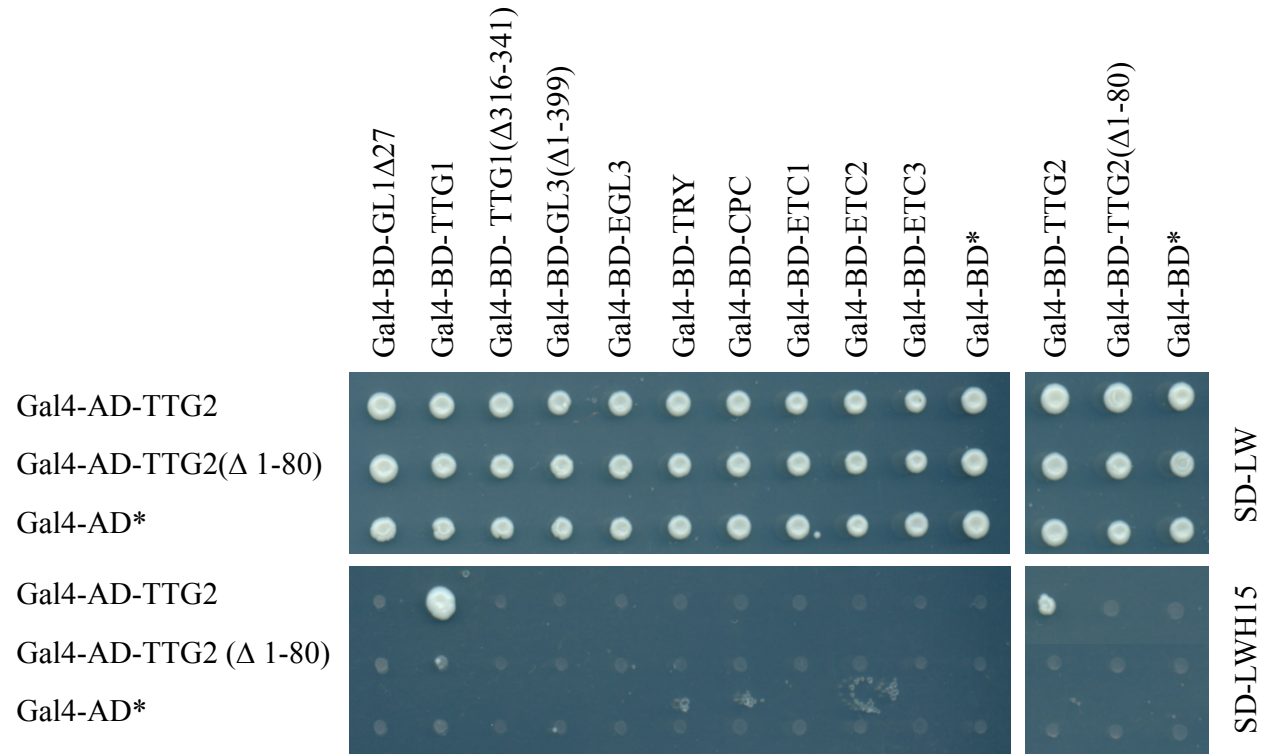
Figure S8

Figure S8: Yeast two hybrid interactions of TTG2-AD with other trichome patterning proteins.
Interaction of TTG2 fused to the activation domain with other trichome and root hair patterning proteins as indicated.

Figure S9

	template	fragment No.		Primer Code	Primer Name	
pTRY-A3(Δ234-176)	Pr15	**Pr181**		19	TRY-F3-sen-attB1	GGGGACAAGTTTGTACAAAAAAGCAGGCTGTGAAACTAATTTGTTACTATATGG
				81	TRY-F4-asen-attB2 (ohne WRKYs)	GGGGACCACTTTGTACAAGAAAGCTGGGTCTCAAATACACATGGAGATG
pTRY-A3(Δ195-176)	Pr15	**Pr182**		19	TRY-F3-sen-attB1	GGGGACAAGTTTGTACAAAAAAGCAGGCTGTGAAACTAATTTGTTACTATATGG
				92	Try-Linker69-PCR-rev (mit W-Box2)	GGGGACCACTTTGTACAAGAAAGCTGGGTTGTTGACCTCTTACCC
pTRY-A3-fragment I (mW1)	Pr15	**Pr154**		19	TRY-F3-sen-attB1	GGGGACAAGTTTGTACAAAAAAGCAGGCTGTGAAACTAATTTGTTACTATATGG
				161	MP-Pr23-mutW-BOX1-Fr1-rev	CCCTTTGTGTAGACTTGTCGCCGGGACTCAAATAC
pTRY-A3-fragment II (mW1)	Pr15	**Pr155**		162	MP-Pr23-mutW-BOX1-Fr2-for	GTATTTGAGTCCCGGCGACAAGTCTACACAAAGGG
				20	TRY-F3-asen-attB2	GGGGACCACTTTGTACAAGAAAGCTGGGTTAAGAAGTGTTGTGTGGTCT
pTRY-A3 (mW1)	Pr154+Pr155	**Pr168**		19	TRY-F3-sen-attB1	GGGGACAAGTTTGTACAAAAAAGCAGGCTGTGAAACTAATTTGTTACTATATGG
				20	TRY-F3-asen-attB2	GGGGACCACTTTGTACAAGAAAGCTGGGTTAAGAAGTGTTGTGTGGTCT
pTRY-A3-fragment I (mW2)	Pr15	**Pr156**		19	TRY-F3-sen-attB1	GGGGACAAGTTTGTACAAAAAAGCAGGCTGTGAAACTAATTTGTTACTATATGG
				163	MP-Pr23-mutW-BOX2-Fr1-rev	GGTCTTGCCGGGCTCTTACCCTTTGTGTAGACTTG
pTRY-A3-fragment II (mW2)	Pr15	**Pr157**		164	MP-Pr23-mutW-BOX2-Fr2-for	CAAGTCTACACAAAGGGTAAGAGCCCGGCAAGACC
				20	TRY-F3-asen-attB2	GGGGACCACTTTGTACAAGAAAGCTGGGTTAAGAAGTGTTGTGTGGTCT
pTRY-A3 (mW2)	Pr156+Pr157	**Pr169**		19	TRY-F3-sen-attB1	GGGGACAAGTTTGTACAAAAAAGCAGGCTGTGAAACTAATTTGTTACTATATGG
				20	TRY-F3-asen-attB2	GGGGACCACTTTGTACAAGAAAGCTGGGTTAAGAAGTGTTGTGTGGTCT
pTRY-A3-fragment I (mW1mW2)	Pr168	**Pr186**		19	TRY-F3-sen-attB1	GGGGACAAGTTTGTACAAAAAAGCAGGCTGTGAAACTAATTTGTTACTATATGG
				163	MP-Pr23-mutW-BOX2-Fr1-rev	MP-Pr23-mutW-BOX2-Fr1-rev
pTRY-A3-fragment II (mW1mW2)	Pr168	**Pr187**		164	MP-Pr23-mutW-BOX2-Fr2-for	MP-Pr23-mutW-BOX2-Fr2-for
				20	TRY-F3-asen-attB2	GGGGACCACTTTGTACAAGAAAGCTGGGTTAAGAAGTGTTGTGTGGTCT
pTRY-A3 (mW1mW2)	Pr186+Pr187	**Pr192**		19	TRY-F3-sen-attB1	GGGGACAAGTTTGTACAAAAAAGCAGGCTGTGAAACTAATTTGTTACTATATGG
				20	TRY-F3-asen-attB2	GGGGACCACTTTGTACAAGAAAGCTGGGTTAAGAAGTGTTGTGTGGTCT
pTRY-A3-B-fragment I (mW1mW2)	R260	**Pr205**		19	TRY-F3-sen-attB1	GGGGACAAGTTTGTACAAAAAAGCAGGCTGTGAAACTAATTTGTTACTATATGG
				-	Fusion15+33-rev	GCAAAACTAATAGTAAGAAGTGTTGTGTGG
pTRY-A3-B-fragment II (mW1mW2)	R260	**Pr206**		-	Fusion15+33-for	CCACACAACACTTCTTACTATTAGTTTTGC
				179	5´-TRY-179-rev-attB2	GGGGACCACTTTGTACAAGAAAGCTGGGTCAAGCTTTATTGAAGTAAGAAAAGAAAAATAGAGAG
pTRY-A3-B (mW1mW2)	R260a + R260b	**Pr207 = Pr195 (mW1mW2)**		19	TRY-F3-sen-attB1	GGGGACAAGTTTGTACAAAAAAGCAGGCTGTGAAACTAATTTGTTACTATATGG
				179	5´-TRY-179-rev-attB2	GGGGACCACTTTGTACAAGAAAGCTGGGTCAAGCTTTATTGAAGTAAGAAAAGAAAAATAGAGAG
pTRY-A3-B	genomic DNA Ler	**Pr195**		19	TRY-F3-sen-attB1	GGGGACAAGTTTGTACAAAAAAGCAGGCTGTGAAACTAATTTGTTACTATATGG
				179	5´-TRY-179-rev-attB2	GGGGACCACTTTGTACAAGAAAGCTGGGTCAAGCTTTATTGAAGTAAGAAAAGAAAAATAGAGAG

MP-WRKY-for-EcoRI	catctccatgtGAATTCgagt
MP-WRKY-for-KpnI	catctccatgtGGTACCgagt
MP-WRKY-for-BamHI	catctccatgtGGATCCgagt
MP-WRKYrev-KpnI	cGGTACCAACTAATAGTAAGAAGTGTTG
MP-WRKYrev-BamHI	cGGATCCAACTAATAGTAAGAAGTGTTG
MP-WRKYrev-XbaI	cTCTGAGAACTAATAGTAAGAAGTGTTG

W1W2	GAGTGTCAACGACAAGTCTACACAAAGGGTAAGAGGTCAACAAG
mW1mW2	GAGTCCCGGCGACAAGTCTACACAAAGGGTAAGAGCCCGGCAAG
mW1W2	GAGTCCCGGCGACAAGTCTACACAAAGGGTAAGAGGTCAACAAG
W1mW2	GAGTGTCAACGACAAGTCTACACAAAGGGTAAGAGCCCGGCAAG
W1	TTTGAGTGTCAACGACAAG
mW1	TTTGAGTCCCGGCGACAAG
W2	GTAAGAGGTCAACAAGACC
mW2	GTAAGAGCCCGGCAAGACC

MP-TTG2-WRKY-Domänen-for	GGGGACAAGTTTGTACAAAAAAGCAGGCTTAACTGGGGATAGATCTTCT
MP-TTG2-WRKY-Domänen-rev	GGGGACCACTTTGTACAAGAAAGCTGGGTACTAGAGCAAATGATGATTATG

MP-AscI-Renilla-rev	TTGGCGCGCCATCCCCCTGCTCGTTCTTC
MP-KpnI-Renilla-for	TTGGTACCATGACCAGCAAGGTGTACGAC

W18D-fwd	CTG GTT CCG CGG GTG CCT ACT GAA ACA TCG GAC AC
W18D-rev	TCC TCC GGT ACC TCA TGT AGC ATC CCC TTC AGA AGC ATT