

## Supplementary Materials

**Table S1.** Analysis of secondary structure of encoded protein.

Gene	Alpha helix	Random coil	Extended strand	Beta turn
Cf4CL	30.87	35.56	24.37	9.21
CfCCoAOMT	37.35	32.53	20.88	9.24

**Table S2.** Comparison of plant height and stem diameter after Tobacco Maturity.

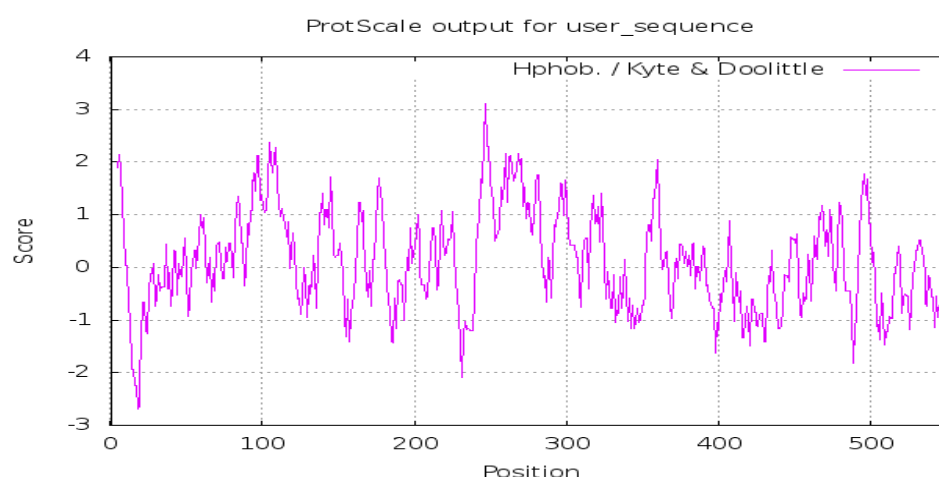
Plant	WT	4CL	CCoAOMT
Plant height/cm	37.17	39.36	40.5
	5	7	
SD	6.214	3.659	5.188
	Sig	0.556	0.442
Stem diameter/mm	4.92	5.68	6.35
	SD	0.717	0.465
Sig		<0.05	<0.01

For every tobacco genotype 3 plants were measured (n=3). SD, standard deviation from selected lines. Sig, the level of significance, data were compared through T-TEST.

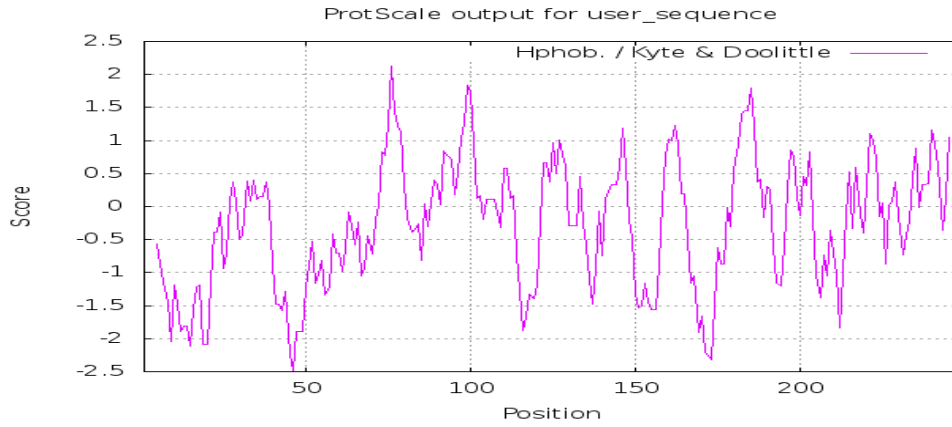
**Table S3.** Transverse section cell wall thickness of tobacco stem segments.

Plant	WT		4CL		CCoAOMT		
	(n = 30)	(n = 32)	(n = 30)	(n = 30)	(n = 32)	(n = 32)	(n = 31)
Cell wall thickness/ $\mu$ m	1.365	2.458	2.464	2.488	2.565	2.501	2.472
SD	0.225	0.295	0.260	0.298	0.287	0.264	0.244
Sig		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

For every tobacco genotype 3 plants were measured (n = 3). SD, standard deviation from selected lines. Sig, the level of significance, data were compared through T-TEST

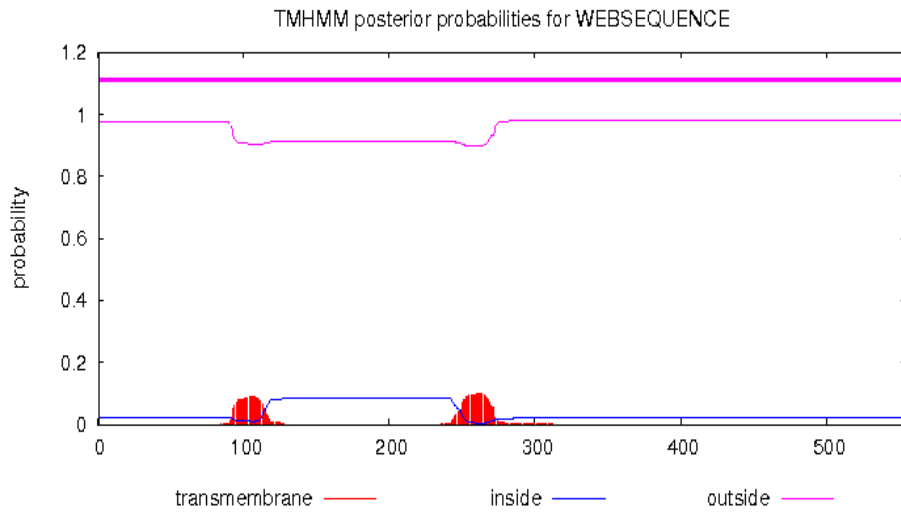


(a)

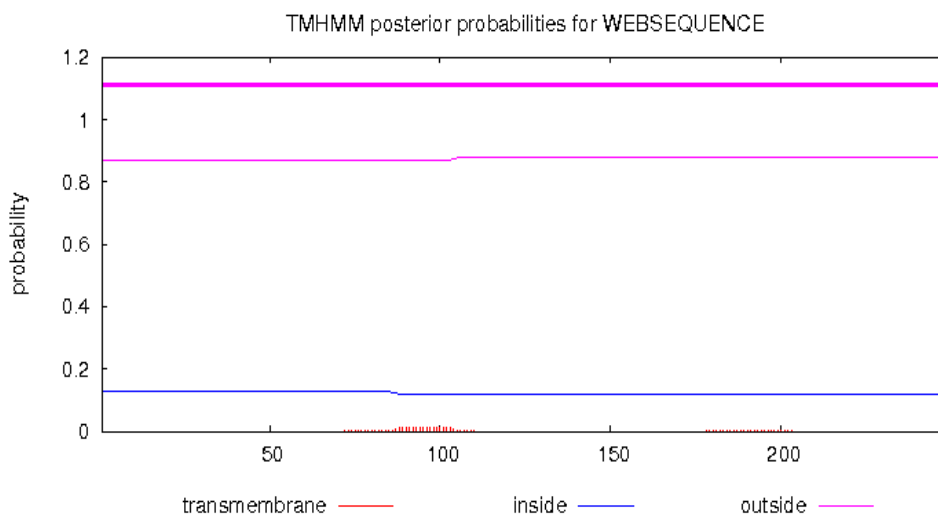


(b)

**Figure S1.** Hydrophobicity curves of the *Cf4CL* and *CfCCoAOMT* gene encoding protein of *C. fortunei*. (a) *Cf4CL* (b) *CfCCoAOMT*.

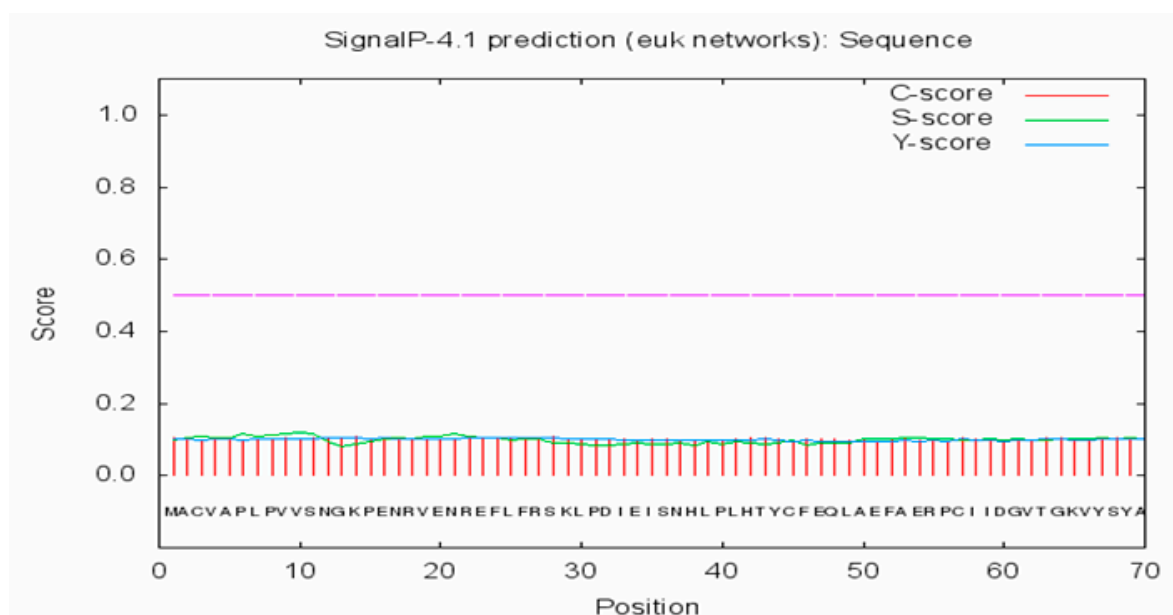


(a)

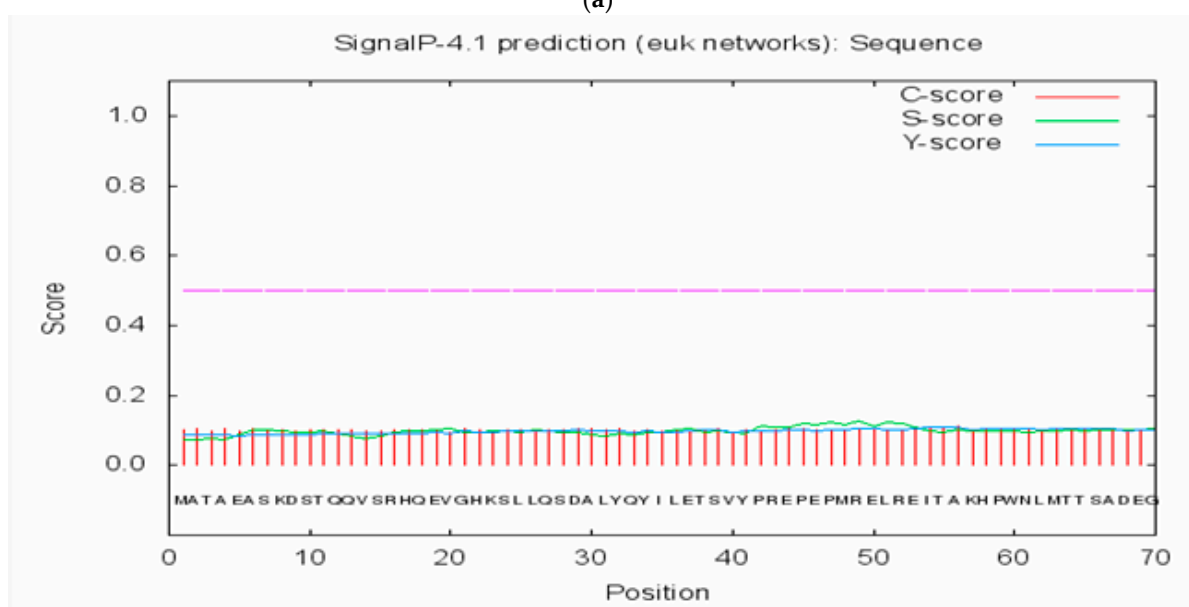


(b)

**Figure 2.** Transmembrane pattern map of *Cf4CLC* and *fCCoAOMT* gene encoding protein of *C. fortunei*. (a) *Cf4CL*, (b) *CfCCoAOMT*.



(a)



(b)

**Figure S3.** Pattern diagram of protein signal peptide encoded by *C. fortunei* *CfACL* and *CfCCoAOMT* gene. (a) *CfACL*, (b) *CfCCoAOMT*.