Supplementary Figures and Tables

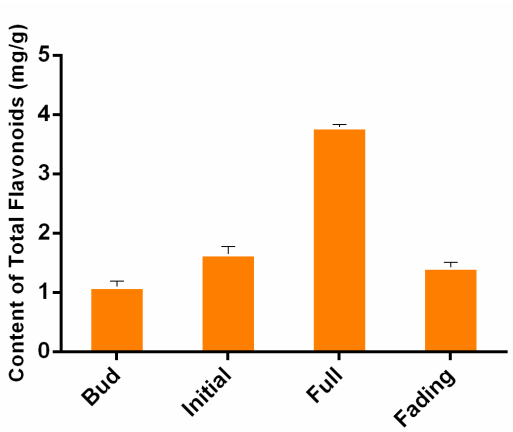

Figure S1. The total flavonoids content in different flowering periods (bud, initial, full and fading).

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1       MTPNFGDKIY ISMINLWSWW
21      WQADNHQDHV ARTILTVSVP
41      LLVFLWYQLT ELYIKKGRTP
61      LPPGPYGLPV VGYLPFLSSD
81      VHERFTHMSH RYGPIFSLWL
101     GSKLHVVVNS MDLARVVARD
121     RDQTFANRNP PITALTITSG
141     APDVVWSSNN AHWRGMRKLL
161     VSQVLSNANL NSCAGFRTDA
181     VRKAVREVYG RIGERIDINK
201     VAFDAELNVV TGMLWGCCDW
221     KGSSDVIGEG FREVEFKIIE
241     LMGAPNVSDF FPMLSWFDLQ
261     GREREMRKQT EHLHRIVDKI
281     IGGRSNGNFR KIGEDERKDF
301     VQILLELKEQ KDGSISIEQI
321     KGLLFDILIA TTDTTSTMAE
341     WVMTEILHHP DVKTKIQEEL
361     NDVLGMNNIV EECHLGKLTY
381     LDAVIKETFR IHSPLPLLIP
401     RCPDEPCTVG GYLIPKGTIV
421     YINVWAIHRD PKNWSEPLKF
441     KPERFLNGKW DYSGNNLKFL
461     PFGVGRRICP GIQLGEKMLV
481     YILASLLHSF EWGLPKGEDF
501     EVSDEFGFVT KKRKPLIAIP
521     SQRLSNTNLY L*
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Figure S2. Amino-acid sequence of the CtF3’5’H1protein.

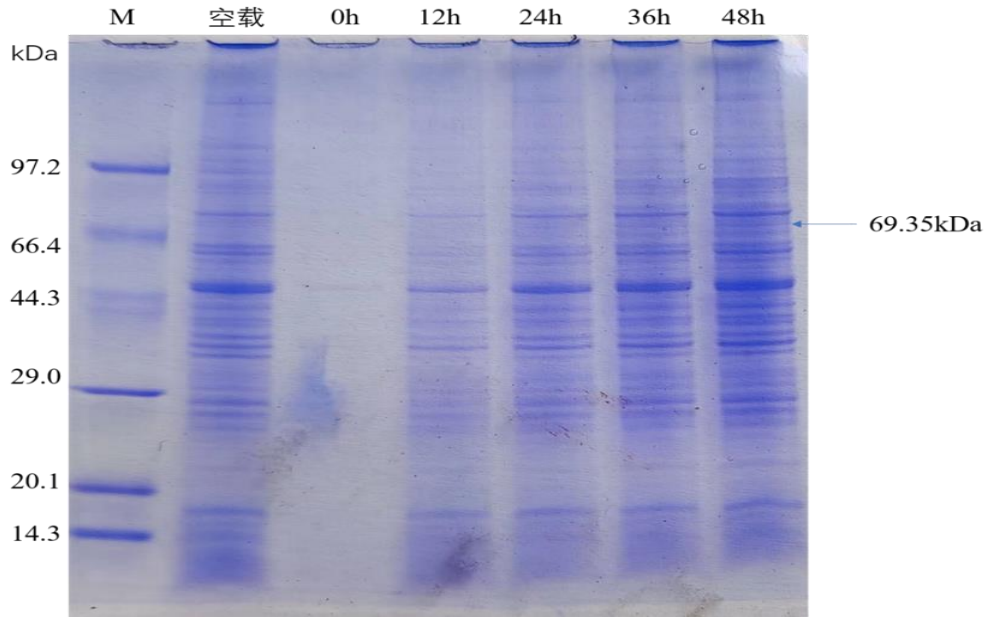


Figure S3. SDS-PAGE image of recombinant CtF3'5'H1. First line is Protein marker; the second is the empty vector; 0 hour, 24 hours, 36 hours, 48hours.

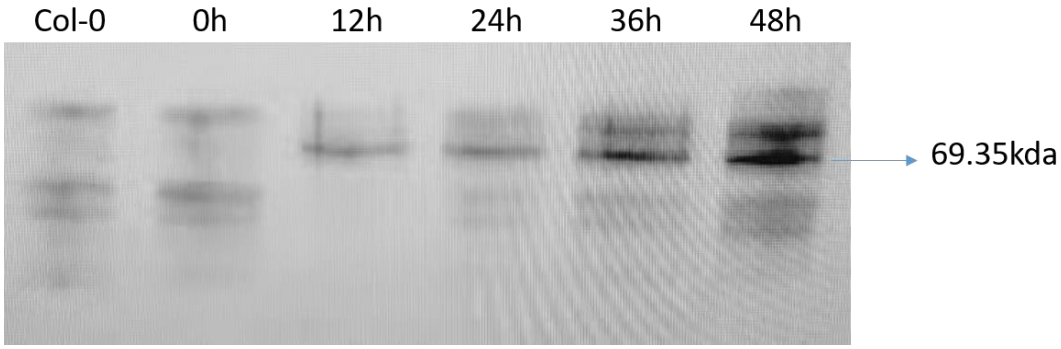


Figure S4. Part of Western Blot validation diagram. Figure S2. First line is the empty vector; the second is 0 hours, next to 12h, 24h, 36h, 48h.
There are specific bands at 69.35kDa.

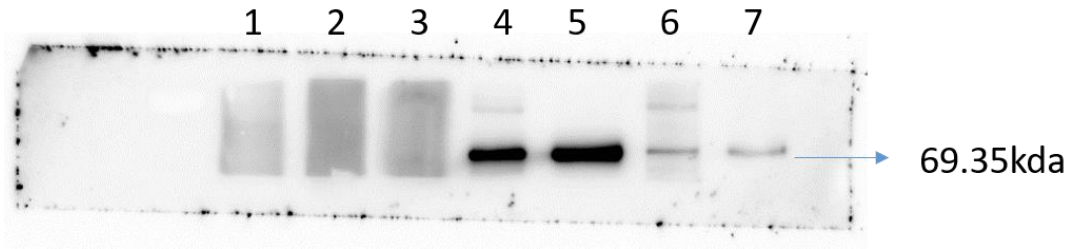


Figure S5. Detection after purification. 1: protein marker (10~170kDa). 2: col-0(the empty vector). 3: 0h. 4,6: binding buffer. 5,7: elution buffer

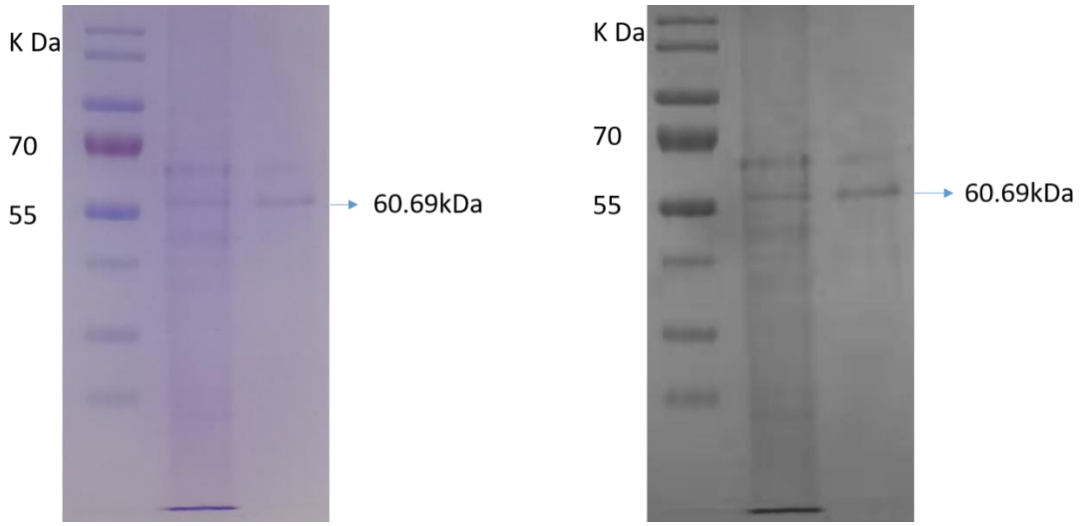
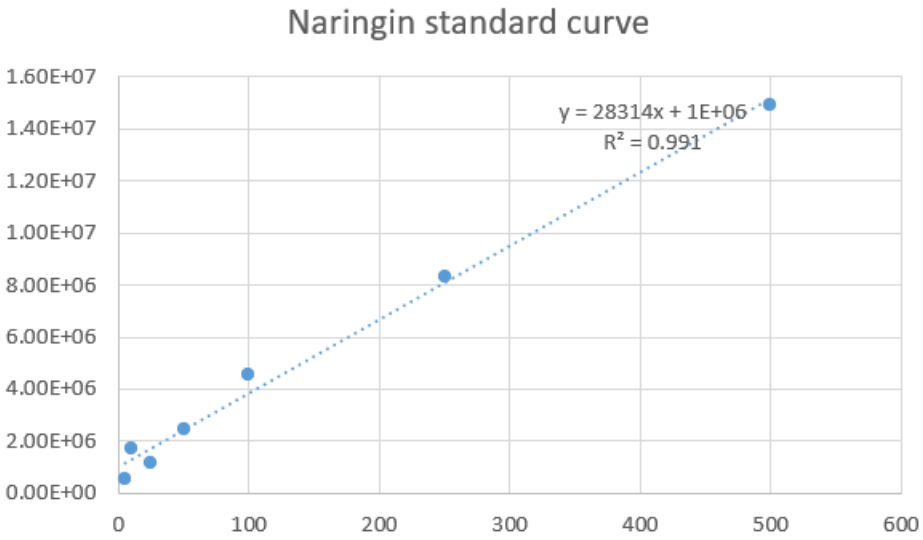


Figure S6. Purification by SDS. The size of the purified protein is the same as that after the removal of two his tags. There is only the clearest one, and the size is 60.69 kDa.

a



b

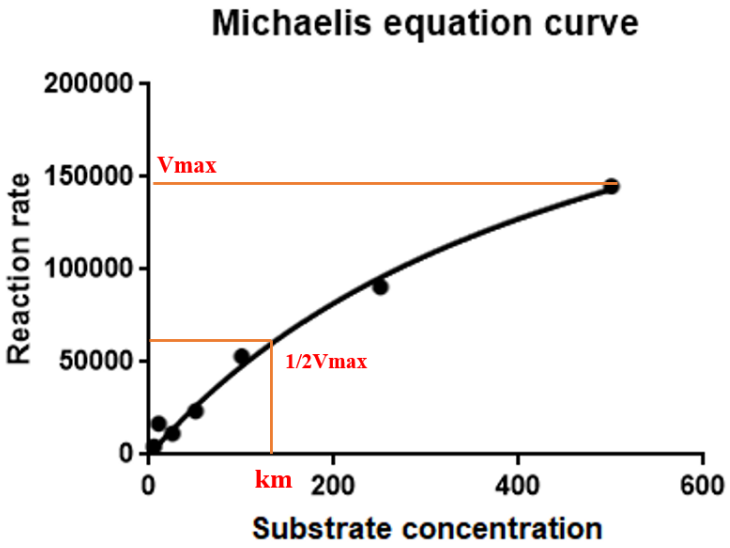


Figure S7. The Naringin standard curve and Enzyme kinetic curve.

As shown in the figure a, the standard curve of the peak area produced by the external standard method for different concentrations of substrates is shown. Abscissa represents substrate the concentration, ordinate represents peak area. (R^2= 0.991.) As shown in the figure b, the Abscissa is the substrate concentration, the ordinate is the reaction rate, and the maximum reaction rate and the substrate concentration when the maximum reaction rate is half of the maximum reaction rate have been marked.

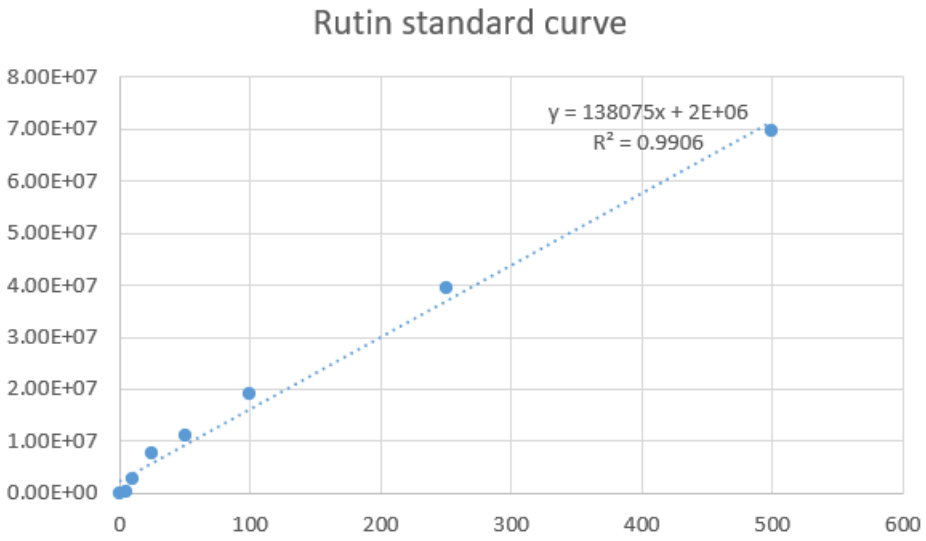


Figure S8. The RUTIN standard curve. The standard curve of total flavone plotted by seven Rutin standard substances with different concentrations (5ng/ml, 10ng/ml, 25ng/ml, 50ng/ml, 100ng/ml, 250ng/ml, 500ng/ml).

Table S1 List of primers used in this study.

Gene	Sequence (5'-3')
18srRNA-F	GAGAAACGGCTACCACATCCAA
18srRNA-R	TCGTTTGAGCCCGGTATTGTTA
CtF3'5'H1-F	AGATGAACCTTGCACAGTTGGC
CtF3'5'H1-R	ACGGCTCAGACCAGTTTTTGG
CtF3'5'H2-F	CGTCGCTAGCAATGCAAGTTG
CtF3'5'H2-R	ATGGCTACTACAATCCCGGCA
CtF3'5'H3-F	AAGATCTGGCTCGGAAGCAAG
CtF3'5'H3-R	AGGTTGCGATTCGCAAAGG
CtF3'5'H4-F	ATGGTGGTGGCAAGTGATGAA
CtF3'5'H4-R	AGCGGTACCATAAAACGACCG
CtF3'5'H5-F	CGATTGTTGGCTACCTTCCGT
CtF3'5'H5-R	GCTTCCGAGCCAGATCTTGAA
CtF3'5'H6-F	ACCTTCGCCAACCGTAATCCT
CtF3'5'H6-R	TTACGCATGTTACGCCAGTGC
CtF3'5'H7-F	TGGTCCGAATAACATCGTCGA
CtF3'5'H7-R	GGAGAGGAACCGGAGGTTGTAA
CtF3'5'H8-F	ACCTTCCGTTTCTTAGCCCTGA
CtF3'5'H8-R	GGCTGCTTATCACGACGAAGAG
CtF3'5'H9-F	AACATTTCGGTTGCACCCC
CtF3'5'H9-R	AAAGACGGTACAGCCCTTTGG
CtF3'5'H10-F	CCATTTCTAGGCCCTAACCTGC
CtF3'5'H10-R	ACCACGATGTGGAGCTTACTGC
CtF3'5'H11-F	GATCAAACTCAACGAGGCCGT
CtF3'5'H11-R	GCAGCTCAGCCACATGATCAT
CtF3'5'H12-F	TGTGGCTGAGTTGCAGACGAT
CtF3'5'H12-R	TCCCCTGAAGATCCAACCATG
CtF3'5'H13-F	GGTCGCTGAACGTTATGACGA
CtF3'5'H13-R	AAGAAGCTCCACGATCCTCGA