

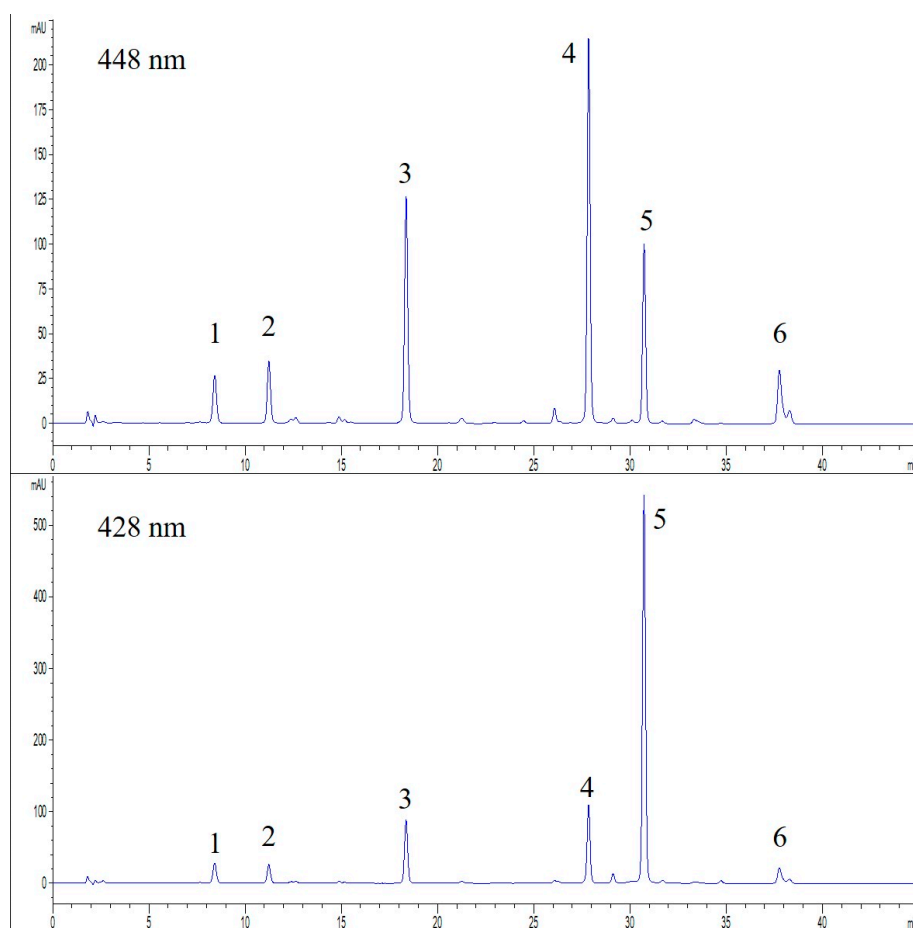
**Table S1 Primers used in this study**

Primer name	Primer sequence (5'-3')	Aims
<i>NXS</i> -F	ATGGCTTTTCTCAGCCTTTGTCTTC	Molecular cloning of <i>NXS</i> CDS
<i>NXS</i> -R	TTACTTGCACTGGTTGTTGGTGTTG	
<i>NXS</i> -GFP-F	CGGGATCCATGGCTTTTCTCAGCCTTTGTCTTC	
<i>NXS</i> -GFP-R	GCGTCGACCTTGCACTGGTTGTTGGTGTTG	
<i>NXS</i> -pCAM-F	CGGGATCCATGGCTTTTCTCAGCCTTTGTCTTC	Subcellular localization
<i>NXS</i> -pCAM-R	GCGTCGACCTTGCACTGGTTGTTGGTGTTG	
<i>NXS</i> -qPCR-F	CAGTTGACATGCCAGCAAGTCC	
<i>NXS</i> -qPCR-R	CGAATCGGATGATACTGGGGA	
$\beta$ -actin-qPCR-F	CCAGAGGTCTTGTTCCAGCCATC	Primers for overexpression sites
$\beta$ -actin-qPCR-R	GTTCCACCACTGAGCACAATGTTAC	
<i>PSY1</i> -qPCR-F	AAGGGCTGTAGAGTCTTCTAGA	
<i>PSY1</i> -qPCR-R	CGTTTTTGTTGTTTGCTTCCTC	
<i>PSY2</i> -qPCR-F	GGGACCTTGATGATCTGAAGAA	
<i>PSY2</i> -qPCR-R	TTCACCCAACAAACTCAAATC	
<i>PSY3</i> -qPCR-F	TTCATGAGACTGCAGCTTAAGA	
<i>PSY3</i> -qPCR-R	CCCAACATAAGCTCTCTTGGA	
<i>PDS1</i> -qPCR-F	GATCTCTTCACAAGCGCTTAAG	
<i>PDS1</i> -qPCR-R	GCTTCCAAGAAATTGACAGTGT	
<i>PDS2</i> -qPCR-F	TCATCTGGAGGTTGTGATTTGA	
<i>PDS2</i> -qPCR-R	ATATCCACACAAACTACCTGCA	
<i>ZISO</i> -qPCR-F	CGTTGTTTGATCGATAACTCC	
<i>ZISO</i> -qPCR-R	GCTAATCCACTATGCACAGTTG	
<i>ZDS</i> -qPCR-F	CGTTCCTTGTCCTCGAGCAA	
<i>ZDS</i> -qPCR-R	CCTCGGAGGTTTCATGTTAGGTCTTC	
<i>CRTISO</i> -qPCR-F	AGATTGGGAGGGACTCACTCCA	Detection of gene expression
<i>CRTISO</i> -qPCR-R	CGTTCCTTGTCCTCGAGCAA	
<i>LCYb</i> -qPCR-F	GTTGTTGATCTAGCTATCGTTGGC	
<i>LCYb</i> -qPCR-R	GAGTTTGGGGGAAGGATCGAT	
<i>LCYe1</i> -qPCR-F	GGTTTGTGTAGTAGAGTCGTCA	
<i>LCYe1</i> -qPCR-R	TCAACGAGCTTAGACTGTTCAT	
<i>LCYe2</i> -qPCR-F	CAGGTTCCGGTATAGAGAGTTG	
<i>LCYe2</i> -qPCR-R	ACGTATAGAATCTCCGAACCAC	
$\beta$ -OHase-qPCR-F	CCTAATGGAGTGAAAAGCATCG	
$\beta$ -OHase-qPCR-R	TCTTTACTGTTGATGGGAAGCT	
$\epsilon$ -OHase-qPCR-F	TCTCCTAAACCCAGATTCTGTCTCC	
$\epsilon$ -OHase-qPCR-R	GCGAGTGAGTGATGTGAGCCA	
<i>VDE</i> -qPCR-F	AAGGCATTTCCTCACATCCTTA	

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<i>VDE</i> -qPCR-R	ACCAAGAAAGTGCCTTTGATTC
<i>ZEP1</i> -qPCR-F	AGAAGTCCTAGTTTCACTTGGG
<i>ZEP1</i> -qPCR-R	TCTGTTTCCATGCTTGTTCAAG
<i>ZEP2</i> -qPCR-F	AGAACTCCTAGTTTCACTTGGG
<i>ZEP2</i> -qPCR-R	TATCCTCAATGGCCATACATCC

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**Figure S1. High-performance liquid chromatography profile of carotenoids and chlorophyll in Chinese kale leaves. 1, neoxanthin, 2, violaxanthin, 3, lutein, 4, Chlorophyll b, 5, chlorophyll a, and 6,  $\beta$ -carotene. Chlorophyll a is detected at 428 nm, and other pigments are detected at 448 nm.**