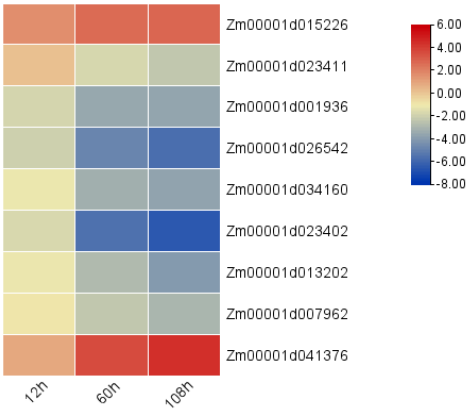
## 附表 1 本研究所用引物

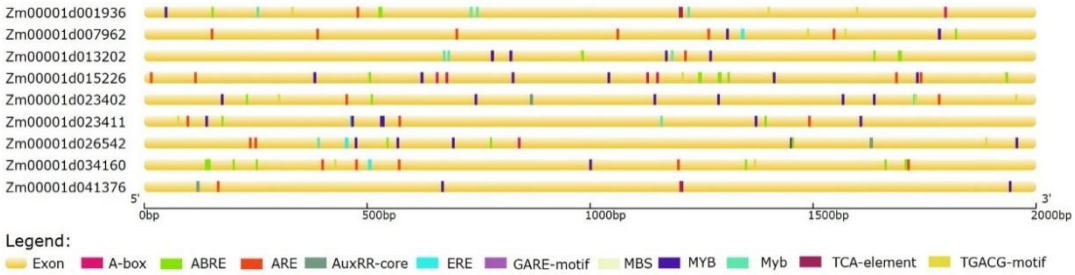
## Suppl.Table1 Primers used in this study

| 引物名称 Primer name | 引物序列 Primer sequence（5′-3′） | 引物用途 Primer usage |
|---|---|---|
| *ZmGLK4*-F | ATGGAGATGGACCCGCCGCC | 基因克隆 |
| *ZmGLK4*-R | TTAGGCAGAGGCGGTATGCGA | Gene cloning |
| *ZmGLK4*-qF | ACACGGCCGAGAACAATAAG | 实时荧光定量 PCR |
| *ZmGLK4*-qR | CATGAGCTCCCGTATCTGCT | Quantitative real-time PCR |
| *ZmUbiquitin*-F | CTGGTGCCCTCTCTCCATATGG | 玉米内参基因 |
| *ZmUbiquitin*-R | CAACACTGACACGACTCATGACA | Maize reference genes |
| *ZmGLK4*-F-GFP | ATACACCAAATCGACTCTAGAATGGAGATGGACCCGCCGCC | 亚细胞定位和拟南芥遗传转化 |
| *ZmGLK4*-R-GFP | CATGGTACCGGATCCACTAGTGGCAGAGGCGGTATGCGACGA | Subcellular localization and Arabidopsis genetic transformation |
| *ZmGLK4*-F-BD | ATGGCCATGGAGGCCGAATTCATGGAGATGGACCCGCCGCC | 转录活性分析 |
| *ZmGLK4*-R-BD | CCGCTGCAGGTCGACGGATCCTTAGGCAGAGGCGGTATGCGA | Transcriptional activity analysis |
| *AtActin2-F* | CCCGCTATGTATGTCGC | 拟南芥内参基因 |
| *AtActin2-R* | AAGGTCAAGACGGAGGAT | Arabidopsis reference genes |
| *AtNRT1.1-F-qPCR* | GCACATTGGCATTAGGCTTT | 实时荧光定量 PCR |
| *AtNRT1.1-R-qPCR* | CTCAATCCCC ACCTCAGCTA | Quantitative real-time PCR |
| *AtNRT1.2-F-qPCR* | AATGCGGTTGCGAGTATGTC | 实时荧光定量 PCR |
| *AtNRT1.2-R-qPCR* | TGGACAGGTTTTTCATCCGC | Quantitative real-time PCR |
| *AtNRT1.5-F-qPCR* | ATGTCTTGCCTAGAGATTTAT | 实时荧光定量 PCR |
| *AtNRT1.5-R-qPCR* | AAAACGCGAGTTAGGAAGAGC | Quantitative real-time PCR |
| *AtNRT1.8-F-qPCR* | GGCTTCAGATTCTTGGATAG | 实时荧光定量 PCR |
| *AtNRT1.8-R-qPCR* | AACCACAGAGTAGAGGATGG | Quantitative real-time PCR |
| *AtNRT2.1-F-qPCR* | AGTCGCTTGCACGTTACCTG | 实时荧光定量 PCR |
| *AtNRT2.1-R-qPCR* | ACCCTCTGACTTGGCGTTCTC | Quantitative real-time PCR |
| *AtNRT2.4-F-qPCR* | CCGTCTTCTCCATGTCTTTC | 实时荧光定量 PCR |
| *AtNRT2.4-R-qPCR* | CTGACCATTGAACATTGTGC | Quantitative real-time PCR |
| *AtNRT2.6-F-qPCR* | CTTCTTTTCTTCTCTTCCTCG | 实时荧光定量 PCR |
| *AtNRT2.6-R-qPCR* | TCTGTCCATTCCGCTCCATAG | Quantitative real-time PCR |
| *AtNRT2.7-F-qPCR* | CCTTCATCCTCGTCCGTTTC | 实时荧光定量 PCR |
| *AtNRT2.7-R-qPCR* | AATTCGGCTATGGTGGAGTA | Quantitative real-time PCR |



**附图 1 LN 处理不同时间点根系差异表达 *ZmGLKs* 基因**

**Fig. S1 The DEGs of *ZmGLKs* in roots after LN treatment at different time points**

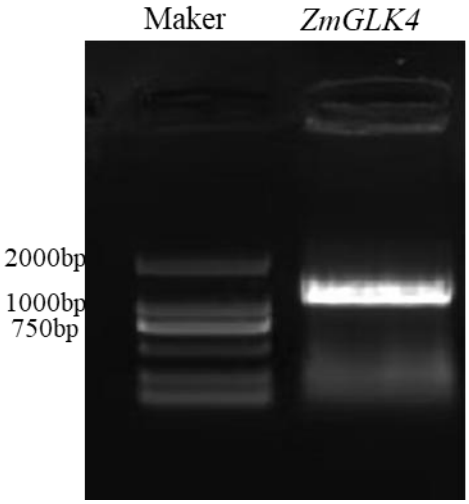



注： Exon 外显子；A-box 为顺式调控元件；ABRE 为 ABRE 为脱落酸响应元件； ARE 为厌氧诱导顺式元件；AuxRR-core 为生长素响应元件；ERE 为乙烯响应元件； GARE-motif 为赤霉素应答元件；MBS 为参与干旱诱导的 MYB 结合位点；MYB 为 MYB 结合位点；Myb 为 Myb 结合位点；TGA-element 为水杨酸响应元件；TGACG-motif 为茉莉酸甲酯响应元件。

Note: A-box: cis-acting regulatory element; ABRE: abscisic acid responsive element; ARE: cis-acting regulatory element essential for the anaerobic induction; ERE: ethylene responsive element; GARE-motif: gibberellin-responsive element; MBS: MYB binding site involved in drought-inducibility; Myb: Myb binding site; TCA-element: salicylic acid -responsive element; TGACG-motif: methyl jasomonate responsive element.

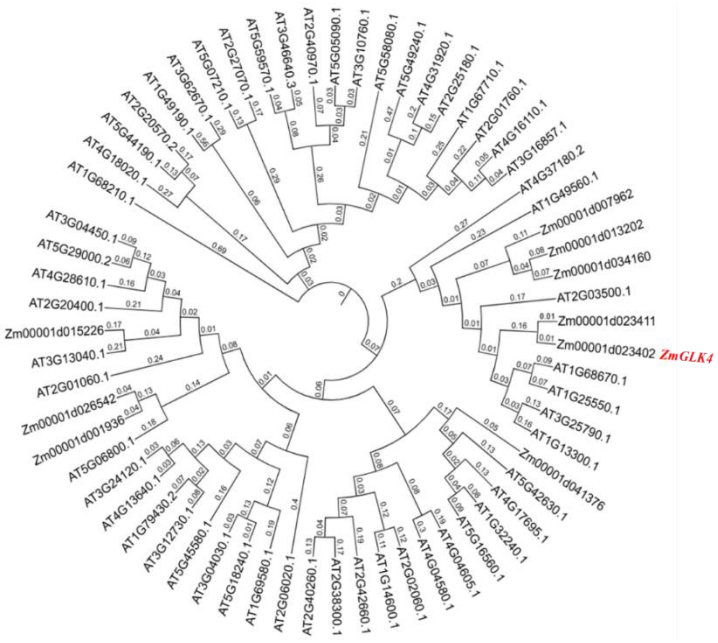
**附图 2 *ZmGLK* 基因启动子顺式作用元件分析**

**Fig. S2 The analysis of the predicted *cis*-elements in the promoter regions of the *ZmGLK* genes**




**附图 3 *ZmGLK4* 基因的克隆**

**Fig. S3 Cloning of the *ZmGLK4* gene**




**附图 4 GLK4 蛋白系统进化树分析**

**Fig. S4 Phylogenetic tree analyses of ZmGLK4**