

Table 1 Suppl. The sequences of primers used for real-time-qPCR.

| Gene names | Forward primer sequences (5'-3') | Reverse primer sequences (5'-3') |
|----------------|----------------------------------|----------------------------------|
| <i>BrACTIN</i> | CCAGGAATCGCTGACCGTAT | CTGGAAAGTGCTGAGGGA |
| <i>BrPYR1</i> | CCGCAGACCTACAAGCACTTCATC | CCTCCTCTCGTCGTCCAGTATGTC |
| <i>BrPYL1</i> | GCACAGGCTGAGGAACTACAAGTC | ACTCAAGAACCACCGTCCAGACC |
| <i>BrPYL2</i> | CGGAGAGACTCGACGAGCTAGAC | CTCATCATCAGGCGACGCAACC |
| <i>BrPYL3</i> | TGTGAGATCTGGACTACCCGCTAC | CCACCGACGATTCTGATGCTGAG |
| <i>BrPYL4</i> | AACACGGAGGAGGAGACTCTTAGC | GCCGGTTGGTACTTCTAGCAAGAC |
| <i>BrPYL5</i> | GGAGGCAGCACCATAAGCATGAG | GGCTTGTACTTCTGTGGCTGATCG |
| <i>BrPYL6</i> | AAAGCTGCACCATCAGAGGTAACG | ATGCTTGTGACGCTGGAAGACC |
| <i>BrPYL7</i> | AGCCACACGACCAAACCGATG | ACCACCGAGGAGCAGCACTG |
| <i>BrPYL8</i> | CAGCATGAGGATCGTTGGTGGAG | ACCACAAAGGACTCGATCACAAGC |
| <i>BrPYL9</i> | AGTTTCCACACGCACGAGGTTG | CGACGGACCATAACGGCAGAAATAG |
| <i>BrPYL10</i> | GTCAGCACCTATCATCACCACCAC | GCACCACGACGGAGAAGCAC |
| <i>BrPYL11</i> | AAAGCCCCTGTTCATCTCGTTTGG | ACCGATCTCAGGATGACCTTGGAC |
| <i>BrPYL12</i> | TGTTGCTCCGCCGTGATTCAAG | TTCCCACCGTCTCCGTTCGATG |
| <i>BrPYL13</i> | CTTCCACCGCCGAGAATCAG | GAACCACGACGGAGAAGCACTG |
| <i>BrPYL14</i> | ACCCTCAAGCGTACAAACTTCG | CTCTCTCACCGACCCAACCTCTC |
| <i>BrPYL15</i> | AGGCGGAGACGGTGGTAACG | CCGACGACGCTGAAGCTGATG |
| <i>BrPYL16</i> | GCCGAGCTAACCGACTCAATCAC | AGGGGACTGGATGCGTTGGG |
| <i>BrPYL17</i> | CGGCAGAGGAGGAGGAGAAGAC | ACCCAACGATGGTATCAGCAAAGG |
| <i>BrPYL18</i> | CCAGAAGGGAACACCAAAGACGAG | CTGAGCAGCCATTCTTTCGCAAAC |
| <i>BrPYL19</i> | CATCGCCGAGTTCACACTTACC | TGACGGACGACTGACCAGACG |
| <i>BrPYL20</i> | CGAGGGGAACACGGTAGAGGAC | GTAGGTGCAGCAGTGGCGATAAC |
| <i>BrPYL21</i> | ATGGACGGAGGCACGGAGATG | CCACTGACCAAACGAGACGAAGAG |
| <i>BrPYL22</i> | CCGGAAGGGAACACAAAGGATGAG | CGCAAGACGCTCGGAGATATCG |
| <i>BrPYL23</i> | CCACGAACGGCTTCCACACG | ACGGAGGAGCAGCACTGGTC |

Table 2 Suppl. Identification of *BrPYL* gene family in Chinese cabbage.

| Gene name | Gene ID | Chromosome location (strand) | Gene structure length[bp] | intron | Protein size [aa] | Mr [Da] | Plant-mPLoc pI | Instability index | Fat index | Mean value of hydrophilicity |
|----------------|-----------|------------------------------|------------------------------|--------|----------------------|---------|-------------------|-------------------|-----------|---------------------------------|
| <i>BrPYR1</i> | Bra012635 | Chr3: 23045837..23046412 (+) | 576 | 0 | 191 | 21368.1 | 6 cytoplasm | 48.42 | 76.49 | -0.399 |
| <i>BrPYL1</i> | Bra013262 | Chr1: 4603519..4604094 (+) | 576 | 0 | 191 | 21659.5 | 6 cytoplasm | 44.79 | 74.40 | -0.491 |
| <i>BrPYL2</i> | Bra013334 | Chr1: 5053988..5054488 (+) | 501 | 0 | 166 | 18380.8 | 5 cytoblast | 45.69 | 91.39 | -0.217 |
| <i>BrPYL3</i> | Bra026299 | Chr1: 9933750..9934522 (+) | 773 | 2 | 184 | 20652.7 | 6 cytoplasm | 45.88 | 98.42 | -0.162 |
| <i>BrPYL4</i> | Bra028758 | Chr2: 798022..798519 (+) | 498 | 0 | 165 | 18378.7 | 6 cytoplasm | 46.36 | 91.33 | -0.221 |
| <i>BrPYL5</i> | Bra022634 | Chr2: 7381641..7382447 (-) | 807 | 2 | 188 | 21309.3 | 6 cytoplasm | 47.51 | 91.17 | -0.428 |
| <i>BrPYL6</i> | Bra008064 | Chr2: 11977352..11977969 (+) | 618 | 0 | 205 | 22928.1 | 9 chloroplast | 37.63 | 91.17 | -0.247 |
| <i>BrPYL7</i> | Bra005853 | Chr3: 930207..930818 (+) | 612 | 0 | 203 | 22727.5 | 6 cytoplasm | 54.75 | 83.40 | -0.379 |
| <i>BrPYL8</i> | Bra029093 | Chr3: 6326055..6327590 (-) | 1536 | 2 | 184 | 20907.8 | 6 cytoplasm | 45.70 | 92.61 | -0.390 |
| <i>BrPYL9</i> | Bra000052 | Chr3: 9077577..9078200 (+) | 624 | 0 | 207 | 22240.2 | 6 cytoplasm | 41.24 | 86.04 | -0.047 |
| <i>BrPYL10</i> | Bra000184 | Chr3: 9792566..9793204 (-) | 639 | 0 | 212 | 23524.4 | 7 chloroplast | 47.43 | 78.49 | -0.347 |
| <i>BrPYL11</i> | Bra000938 | Chr3: 14059251..14059984 (+) | 734 | 2 | 193 | 21765.9 | 6 cytoplasm | 49.67 | 90.83 | -0.268 |
| <i>BrPYL12</i> | Bra017125 | Chr4: 16588295..16588909 (+) | 615 | 0 | 204 | 21988.8 | 6 cytoplasm | 41.52 | 86.81 | -0.113 |
| <i>BrPYL13</i> | Bra017012 | Chr4: 17250235..17050852 (-) | 618 | 0 | 205 | 22765.5 | 6 cytoblast | 49.60 | 76.44 | -0.403 |
| <i>BrPYL14</i> | Bra004967 | Chr5: 2688167..2688805 (+) | 639 | 0 | 212 | 23446.3 | 7 mitochondrion | 44.86 | 78.02 | -0.319 |
| <i>BrPYL15</i> | Bra005115 | Chr5: 3507221..3507670 (-) | 450 | 0 | 149 | 16174.3 | 9 chloroplast | 38.60 | 85.57 | -0.109 |
| <i>BrPYL16</i> | Bra024995 | Chr6: 23525140..23525772 (+) | 633 | 0 | 210 | 23885.7 | 5 cytoblast | 49.79 | 75.57 | -0.563 |
| <i>BrPYL17</i> | Bra025048 | Chr6: 23811234..23811746 (+) | 513 | 0 | 170 | 18746.0 | 5 chloroplast | 54.00 | 83.06 | -0.310 |
| <i>BrPYL18</i> | Bra003463 | Chr7: 16602969..16603702 (-) | 734 | 2 | 187 | 20768.8 | 6 cytoskeleton | 33.71 | 90.05 | -0.141 |
| <i>BrPYL19</i> | Bra021032 | Chr8: 9551098..9551676 (+) | 579 | 1 | 157 | 17455.7 | 5 chloroplast | 47.95 | 74.46 | -0.339 |
| <i>BrPYL20</i> | Bra007772 | Chr9: 32330585..32331151 (+) | 567 | 0 | 188 | 20834.4 | 5 cytoblast | 35.57 | 84.79 | -0.298 |
| <i>BrPYL21</i> | Bra033267 | Chr10: 3242888..3243713 (+) | 826 | 2 | 186 | 20969.0 | 6 cytoplasm | 51.14 | 94.73 | -0.290 |
| <i>BrPYL22</i> | Bra003077 | Chr10: 5453721..5454763 (+) | 1043 | 2 | 184 | 21031.8 | 6 cytoplasm | 48.02 | 91.52 | -0.511 |
| <i>BrPYL23</i> | Bra009113 | Chr10: 15189844..15190458(+) | 615 | 0 | 204 | 22779.6 | 6 cytoplasm | 51.16 | 84.36 | -0.328 |

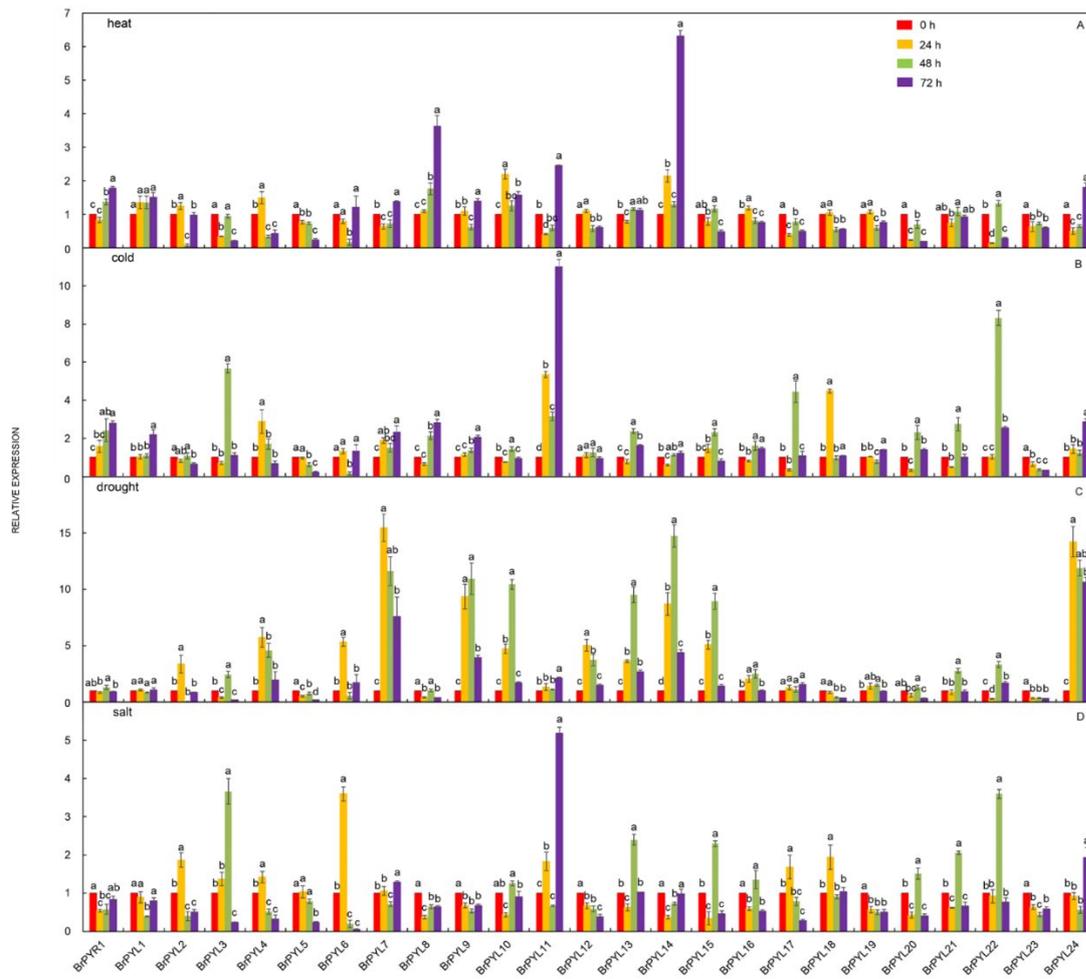


Fig. 1 Suppl. Relative expressions of *BrPYL* genes in leaf of Chinese cabbage seedlings subjected to heat, cold, drought, and salt stresses for 0, 24, 48, and 72 h. Expressions of the *BrPYL* genes were normalized to those of *BrACTIN* and shown relative to the expression at 0 h. Columns with different colors represent distinct time periods. A - The relative expressions of *BrPYL* genes in leaves exposed to heat stress for 0, 24, 48, and 72 h; B - the relative expressions of *BrPYL* genes in leaves exposed to cold stress for 0, 24, 48, and 72 h; C - the relative expressions of *BrPYL* genes in leaves exposed to drought stress for 0, 24, 48, and 72 h; D - the relative expressions of *BrPYL* genes in leaves exposed to salt stress for 0, 24, 48, and 72 h. Means \pm SEs, $n = 3$. The statistical analysis was performed by Duncan's multiple range test. Different lower-case letters represent significant differences ($P \leq 0.05$).