Little impacts on transcriptome and secondary metabolites of transgenic rice by resveratrol synthase gene

Yang Qin, Soon-Jong Kweon, Soo-Yun Park, Jin-Hyong Lee, Hee-Jong Woo, Kong-Sik Shin, Hyun-Suk Cho, Soon-Ki Park, and Myung-Ho Lim*

Supplementary Table 1. Primer sequence for RT-PCR used for confirmation on microarray data

<table>
<thead>
<tr>
<th>Loc.No.</th>
<th>Primer forward sequence</th>
<th>Primer reverse sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Os03g0115800</td>
<td>TCCCCTGCATCATACAGGCAACC</td>
<td>GGAAGGGAACACATTCCTCCTGA</td>
</tr>
<tr>
<td>OS09g0359500</td>
<td>CGCGTGTGCAGAATTCCTGCTA</td>
<td>GGCCTTCGACATGTATAGCTTAGG</td>
</tr>
<tr>
<td>Os08g0212400</td>
<td>GCTTATGCAACCAGGAAGAG</td>
<td>GCAGCCATCATCATTCCTCCTGA</td>
</tr>
<tr>
<td>Os06g0265100</td>
<td>ATGAAATCCCCTGCACATAC</td>
<td>CAGTAGAATACAATCGGTTCTAGGA</td>
</tr>
<tr>
<td>Os03t0569000</td>
<td>GTGAGCAATCAACTGTTCCGG</td>
<td>CTCAACTGGCTCTAGCTCA</td>
</tr>
<tr>
<td>Os08g0140700</td>
<td>TGTGTTGTCAATGCGGAGTC</td>
<td>ACCGATTAGCAAAGAACTTG</td>
</tr>
<tr>
<td>Os03g0421000</td>
<td>GTGGGCAAATATCAAGGGGA</td>
<td>CTGATTTGCTCTTCCTACCTC</td>
</tr>
<tr>
<td>Os04g0565300</td>
<td>ATGCCGCTTCAAGGCAGAAGG</td>
<td>TTATATTTGGCCTAAACATTG</td>
</tr>
<tr>
<td>Os03g0629800</td>
<td>ATGGGCTCCGTTGATGCGGT</td>
<td>TTACGCGGAATGGGGAAGAG</td>
</tr>
<tr>
<td>Os02g0161700</td>
<td>GTATCTTACACCCATGCCTG</td>
<td>CAAGGTTATAGCAAAGATGCAT</td>
</tr>
<tr>
<td>OsActin1</td>
<td>CTGCTATGTCACGGCCTAC</td>
<td>AGTCTCATGGATACCCGCAG</td>
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</table>
**Supplementary Table 2.** Comparison on phenolic compounds of up- and down-stream to the inserted resveratrol gene between transgenic lines and non-transgenic lines for brown rice grains

<table>
<thead>
<tr>
<th>Phenolic compounds</th>
<th>I515</th>
<th>I526</th>
<th>DJ</th>
<th>ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>ρ-coumaric acid (µg/g)</td>
<td>36.95±1.12^a</td>
<td>37.73±0.67</td>
<td>36.66±0.86</td>
<td>37.09±0.47</td>
</tr>
<tr>
<td>Vanillin (µg/g)</td>
<td>9.57±1.10</td>
<td>9.99±0.79</td>
<td>8.34±0.04</td>
<td>9.36±0.11</td>
</tr>
<tr>
<td>Chlorogenic acid (µg/g)</td>
<td>27.41±0.54</td>
<td>27.73±1.76</td>
<td>24.98±0.26</td>
<td>27.29±0.08</td>
</tr>
<tr>
<td>Naringenin (µg/g)</td>
<td>3.20±0.16</td>
<td>7.35±0.47</td>
<td>6.12±0.10</td>
<td>6.78±0.56</td>
</tr>
<tr>
<td>Biochanin A (µg/g)</td>
<td>88.11±1.44</td>
<td>94.63±2.08</td>
<td>88.97±0.08</td>
<td>91.25±3.37</td>
</tr>
<tr>
<td>Ferulic acid (µg/g)</td>
<td>tr^b</td>
<td>tr</td>
<td>tr</td>
<td>tr</td>
</tr>
<tr>
<td>Resveratrol (µg/g)</td>
<td>2.15±0.09</td>
<td>4.34±0.11</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

^a Mean±Standard deviation; ^b Trace;
Supplementary Table 3. The average characteristic performance of growth and development and yield components of I515, I526 and their wild type variety ‘Dongjin’ over two or three years

<table>
<thead>
<tr>
<th>Variety</th>
<th>Years</th>
<th>Culm length</th>
<th>Panicle length</th>
<th>Panicle number</th>
<th>Weight/plant(g)</th>
<th>100-grain weight(g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I515</td>
<td>2011</td>
<td>83.49±3.13</td>
<td>20.17±2.00</td>
<td>11.20±2.72</td>
<td>22.69±4.97</td>
<td>2.41±0.11</td>
</tr>
<tr>
<td>I526</td>
<td>2012</td>
<td>94.15±4.69</td>
<td>20.74±1.85</td>
<td>11.17±2.13</td>
<td>30.63±7.16</td>
<td>2.73±0.17</td>
</tr>
<tr>
<td>DJ</td>
<td></td>
<td>96.60±4.27</td>
<td>20.30±1.57</td>
<td>13.10±1.85</td>
<td>34.28±7.93</td>
<td>2.61±0.10</td>
</tr>
<tr>
<td>I515</td>
<td>2012</td>
<td>88.50±4.49</td>
<td>19.67±1.14</td>
<td>12.42±3.38</td>
<td>28.55±8.51</td>
<td>2.55±0.08</td>
</tr>
<tr>
<td>I526</td>
<td>2013</td>
<td>86.62±2.64</td>
<td>20.59±1.28</td>
<td>7.80±2.15</td>
<td>15.36±4.81</td>
<td>2.79±0.06</td>
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<tr>
<td>DJ</td>
<td></td>
<td>83.89±2.03</td>
<td>21.30±0.95</td>
<td>7.80±2.12</td>
<td>18.85±5.37</td>
<td>2.74±0.07</td>
</tr>
</tbody>
</table>

\( t \) (I515) 2 Y 0.34 0.77 0.10 0.06 4.86**
\( t \) (I526) 3 Y 0.36 0.17 0.07 0.16 0.71

(Continued)

<table>
<thead>
<tr>
<th>Variety</th>
<th>Years</th>
<th>Unfilled grain number</th>
<th>Filled grain number</th>
<th>Seed set (%)</th>
<th>Grain number/panicle</th>
<th>Resveratrol content(ug/g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I515</td>
<td>2011</td>
<td>109.40±51.28</td>
<td>94.32±199.15</td>
<td>89.59±4.26</td>
<td>87.40±27.92</td>
<td>2.15±0.09</td>
</tr>
<tr>
<td>I526</td>
<td>2012</td>
<td>102.35±48.88</td>
<td>1121.04±248.18</td>
<td>91.52±3.84</td>
<td>101.28±17.52</td>
<td>4.34±0.11</td>
</tr>
<tr>
<td>DJ</td>
<td></td>
<td>111.10±45.82</td>
<td>1313.96±311.99</td>
<td>92.12±3.18</td>
<td>100.69±19.07</td>
<td>-</td>
</tr>
<tr>
<td>I515</td>
<td>2012</td>
<td>168.16±83.09</td>
<td>1119.28±332.20</td>
<td>86.78±5.89</td>
<td>104.00±11.89</td>
<td>2.15±0.09</td>
</tr>
<tr>
<td>I526</td>
<td>2013</td>
<td>180.46±81.28</td>
<td>879.91±298.24</td>
<td>83.03±4.67</td>
<td>119.16±17.95</td>
<td>4.27±0.19</td>
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<tr>
<td>DJ</td>
<td></td>
<td>89.42±33.71</td>
<td>974.79±298.06</td>
<td>91.46±2.80</td>
<td>119.71±13.49</td>
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<tr>
<td>I526</td>
<td>2013</td>
<td>309.57±94.91</td>
<td>552.23±176.02</td>
<td>63.75±5.37</td>
<td>70.64±10.37</td>
<td>4.48±0.03</td>
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<tr>
<td>DJ</td>
<td></td>
<td>145.30±71.19</td>
<td>687.68±199.60</td>
<td>82.67±6.20</td>
<td>87.88±7.23</td>
<td>-</td>
</tr>
</tbody>
</table>

** indicate significant difference between transgenic lines and wild type variety at 0.01 level by t-test.