

**Supplementary Table S2.** Concentrations of endogenous phytohormones in isogenic embryonal mass (EM) and non-embryogenic callus (NEC) of three genotypes (SD4-8, TD15-1, TD17-1) of Douglas fir after two weeks of proliferation.

Phytohormones* (pmol.g <sup>-1</sup> d.w.)	EM			NEC		
	SD4-8	TD15-1	TD17-1	SD4-8	TD15-1	TD17-1
IAA	301.45±11.69 <sup>a</sup>	241.81±60.62 <sup>a</sup>	246.90±32.42 <sup>a</sup>	266.58±30.44 <sup>a</sup>	110.15±8.93 <sup>a</sup>	153.57±43.04 <sup>a</sup>
ABA	176.60±20.76 <sup>a</sup>	139.40±51.69 <sup>a</sup>	513.91±297.39 <sup>a</sup>	4013.45±1481.83 <sup>b</sup>	756.49±283.88 <sup>b</sup>	1927.8±1187.97 <sup>a</sup>
ABA-GE	329.67±76.31 <sup>a</sup>	33.58±8.26 <sup>a</sup>	128.73±53.58 <sup>a</sup>	37055.47±6038.00 <sup>b</sup>	1401.17±309.58 <sup>b</sup>	6437.11±4683.65 <sup>b</sup>
<b>Isoprenoid CKs</b>						
<i>transZ</i>	0	0	0	0	0	0
<i>transZR</i>	0	0.12±0.06	0.28±0.06	0	0	0
<i>transZRMP</i>	0	0	0	0	0	0
<i>transZROG</i>	0	0	0	0	0	0
<i>transZOG</i>	0.23±0.03	0.12±0.06	0.50±0.16	1.77±0.94	0.56±0.18	1.81±0.51
<i>transZ7G</i>	0	0	0	3.52±0.14	0.58±0.28	0.63±0.37
<i>transZ9G</i>	0	0	0	0	0	0
<b>Total <i>transZ</i>-types</b>	<b>0.23</b>	<b>0.24</b>	<b>0.78</b>	<b>5.3</b>	<b>1.15</b>	<b>2.44</b>
<i>cisZ</i>	0	0	0	0	0	0
<i>cisZR</i>	4.01±0.33	3.95±0.37	4.07±0.44	7.00±0.64	2.63±0.58	1.74±1.03
<i>cisZRMP</i>	6.94±0.79	2.49±0.80	3.71±0.59	5.23±1.64	1.97±1.08	1.07±0.53
<i>cisZROG</i>	0	0	0	9.21±0.68	0.42±0.14	0
<i>cisZOG</i>	0	0	0	0	0	0
<i>cisZ7G</i>	0	0	0	3.48±1.06	0	0.89±0.51
<i>cisZ9G</i>	0	0	0	0	0	0
<b>Total <i>cisZ</i>-types</b>	<b>10.94</b>	<b>6.44</b>	<b>7.78</b>	<b>24.93</b>	<b>5.01</b>	<b>3.71</b>
iP	1.50±0.66	0.85±0.22	1.10±0.07	1.67±0.18	0.64±0.28	2.98±2.16
iPR	1.00±0.15	1.52±0.48	0.91±0.12	0	0.87±0.22	0.82±0.38
iPRMP	2.98±0.60	3.11±0.89	1.55±0.46	1.99±0.75	4.22±0.34	3.03±0.49
iP7G	0	0	0	0	0	0
iP9G	0	0	0	0	0	0
<b>Total iP-types</b>	<b>5.48</b>	<b>5.49</b>	<b>3.56</b>	<b>3.66</b>	<b>5.73</b>	<b>6.82</b>
DHZ	0	0	0	0	0	0
DHZR	0	0	0	0	0	0
DHZRMP	0.53±0.10	0.58±0.39	0.64±0.10	0.59±0.49	0.25±0.07	0.58±0.27
DHZROG	0	0	0	0	0	0
DHZOG	0	0	0	0	0	0
DHZ7G	0.36±0.09	0	0.58±0.09	0	0	0.64±0.13
DHZ9G	0	0	0	0	0	0
<b>Total DHZ-types</b>	<b>0.89</b>	<b>0.58</b>	<b>1.22</b>	<b>0.59</b>	<b>0.25</b>	<b>1.23</b>
<b>∑ Isoprenoid CKs</b>	<b>17.54</b>	<b>12.74</b>	<b>13.34</b>	<b>34.48</b>	<b>12.14</b>	<b>14.21</b>
<b>Aromatic CKs</b>						
BA	5486.1±434.2 <sup>a</sup>	6716.79±395.41 <sup>a</sup>	4853.41±352.34 <sup>a</sup>	27048.7±11899.1 <sup>b</sup>	7674.02±1894.03 <sup>a</sup>	3086.45±622.12 <sup>b</sup>
BAR	176.3±28.16 <sup>a</sup>	172.23±20.11 <sup>a</sup>	142.63±11.96 <sup>a</sup>	530.05±110.04 <sup>b</sup>	1729.5±277.07 <sup>b</sup>	133.69±27.25 <sup>a</sup>
BARMP	350.66±62.58 <sup>a</sup>	379.40±46.86 <sup>a</sup>	298.26±49.00 <sup>a</sup>	1655.14±72.27 <sup>b</sup>	5187.6±1132.87 <sup>b</sup>	375.69±96.79 <sup>a</sup>
BA3G + BA7G	6.19±1.84 <sup>a</sup>	7.83±2.27 <sup>a</sup>	6.54±2.63 <sup>a</sup>	221.97±41.53 <sup>b</sup>	22.14±3.90 <sup>b</sup>	20.46±2.4 <sup>b</sup>
BA9G	11.09±1.12 <sup>a</sup>	4.55±1.17 <sup>a</sup>	3.73±1.75 <sup>a</sup>	1578.89±214.41 <sup>b</sup>	117.49±20.39 <sup>b</sup>	46.99±31.88 <sup>a</sup>
<b>Total BA-types</b>	<b>6030.33</b>	<b>7280.8</b>	<b>5304.57</b>	<b>31034.76</b>	<b>14730.75</b>	<b>3663.28</b>
OH-BA	5.07±0.11	4.84±0.85	11.75±7.35	69.08±25.59	28.28±3.72	3.63±1.80
OH-BAR	0.17±0.10	0.90±0.12	0.49±0.1	16.18±5.2	4.13±0.67	0.51±0.33
OH-BARMP	0.87±0.24	7.32±3.59	3.03±0.72	4.6±0.63	11.26±1.13	1.35±0.78
OH-BA9G	0	0	0	1.68±0.73	0.43±0.65	0
<b>Total OH-BA derivatives</b>	<b>6.12</b>	<b>13.06</b>	<b>15.27</b>	<b>91.54</b>	<b>44.10</b>	<b>5.49</b>

All data are means ± CI. Different letters indicate significant differences according to multiple comparisons of means (P < 0.05, n=3-4).

\*IAA, indole 3-acetic acid; ABA, abscisic acid, ABA-GE, ABA-glucose ester; Isoprenoid cytokinins (CKs) included *trans*-zeatin (*transZ*), *cis*-zeatin (*cisZ*), N<sup>6</sup>-(Δ<sup>2</sup>-isopentenyl)adenine (iP) and dihydrozeatin (DHZ) types;

Aromatic CKs included *N*<sup>6</sup>-benzyladenine (BA) types, including derivatives hydroxylated on the side-chain phenyl ring in *ortho*, *meta* and *para* positions (OH-BA types). Abbreviations of CKs adopted and modified according to Kamínek et al. (2000).