Table 7: The mutation rates at the YY1 transcription binding sites in Tf subfamily

### YY1 binding sites

**Mouse L1 with neighboring genes**

<table>
<thead>
<tr>
<th>Activity</th>
<th>+++</th>
<th>CpG</th>
<th>++</th>
<th>CpG</th>
<th>+</th>
<th>CpG</th>
<th>-</th>
<th>CpG</th>
<th>Total</th>
<th>CpG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>105</td>
<td>13</td>
<td>58</td>
<td>3</td>
<td>79</td>
<td>6</td>
<td>22</td>
<td>65</td>
<td>20</td>
<td>307</td>
</tr>
<tr>
<td><strong>Ratio (%)</strong></td>
<td>34.20</td>
<td>18.89</td>
<td>25.73</td>
<td>52.38</td>
<td>21.17</td>
<td>47.62</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mutation of YY1**

<table>
<thead>
<tr>
<th>Activity</th>
<th>91</th>
<th>10</th>
<th>47</th>
<th>2</th>
<th>60</th>
<th>3</th>
<th>15</th>
<th>13</th>
<th>3</th>
<th>211</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ratio (%)</strong></td>
<td>86.67</td>
<td>81.03</td>
<td>75.95</td>
<td>83.33</td>
<td>20.00</td>
<td>16.67</td>
<td>68.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mutation of YY1**

<table>
<thead>
<tr>
<th>Activity</th>
<th>14</th>
<th>3</th>
<th>11</th>
<th>1</th>
<th>19</th>
<th>3</th>
<th>7</th>
<th>52</th>
<th>17</th>
<th>96</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ratio (%)</strong></td>
<td>13.33</td>
<td>18.97</td>
<td>24.05</td>
<td>29.17</td>
<td>80.00</td>
<td>70.83</td>
<td>31.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 17 L1s have one monomer
* 290 L1s have at least two monomers

**Mouse L1 without neighboring genes**

<table>
<thead>
<tr>
<th>Activity</th>
<th>+++</th>
<th>CpG</th>
<th>++</th>
<th>CpG</th>
<th>+</th>
<th>CpG</th>
<th>-</th>
<th>CpG</th>
<th>Total</th>
<th>CpG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>190</td>
<td>16</td>
<td>149</td>
<td>5</td>
<td>132</td>
<td>12</td>
<td>33</td>
<td>97</td>
<td>25</td>
<td>568</td>
</tr>
<tr>
<td><strong>Ratio (%)</strong></td>
<td>33.45</td>
<td>26.23</td>
<td>23.24</td>
<td>56.90</td>
<td>17.08</td>
<td>43.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mutation of YY1**

<table>
<thead>
<tr>
<th>Activity</th>
<th>164</th>
<th>11</th>
<th>131</th>
<th>2</th>
<th>103</th>
<th>1</th>
<th>14</th>
<th>34</th>
<th>1</th>
<th>432</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ratio (%)</strong></td>
<td>86.32</td>
<td>87.92</td>
<td>78.03</td>
<td>93.33</td>
<td>35.05</td>
<td>6.67</td>
<td>76.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mutation of YY1**

<table>
<thead>
<tr>
<th>Activity</th>
<th>26</th>
<th>5</th>
<th>18</th>
<th>3</th>
<th>29</th>
<th>11</th>
<th>19</th>
<th>63</th>
<th>24</th>
<th>136</th>
<th>43</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ratio (%)</strong></td>
<td>13.68</td>
<td>12.08</td>
<td>21.97</td>
<td>44.19</td>
<td>64.95</td>
<td>55.81</td>
<td>23.94</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 39 L1s have one monomer
* 529 L1s have at least two monomers