**Table S4.** Small molecule compounds assayed for which phenotypes are not shown

<table>
<thead>
<tr>
<th>Biochemical Compounds assayed</th>
<th>Commercial supplier</th>
<th>Structure</th>
</tr>
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<tbody>
<tr>
<td>Genistein</td>
<td>Calbiochem</td>
<td><img src="image" alt="Genistein Structure" /></td>
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<tr>
<td>5150905</td>
<td>Chembridge</td>
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<tr>
<td>KT5720</td>
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<td><img src="image" alt="KT5720 Structure" /></td>
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<tr>
<td>staurosporine</td>
<td>Calbiochem</td>
<td><img src="image" alt="Staurosporine Structure" /></td>
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<tr>
<td>---------------------</td>
<td>------------------</td>
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<tr>
<td>UO126</td>
<td>Calbiochem</td>
<td><img src="image1" alt="UO126 Image" /></td>
</tr>
<tr>
<td>Geldanamycin</td>
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<td><img src="image2" alt="Geldanamycin Image" /></td>
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<tr>
<td>Swainsonine</td>
<td>Calbiochem</td>
<td><img src="image3" alt="Swainsonine Image" /></td>
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<td>PP1</td>
<td>Calbiochem</td>
<td><img src="image4" alt="PP1 Image" /></td>
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<tr>
<td>PP3</td>
<td>Calbiochem</td>
<td><img src="image5" alt="PP3 Image" /></td>
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<td>Etazolate, hydrochloride</td>
<td>Calbiochem</td>
<td><img src="image6" alt="Etazolate Image" /></td>
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Table S5. Small molecule compound 31B4 assayed at the 8–16 cell stage showing phenotypic response to compound concentration

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<th>Compound Concentration</th>
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<th>Phenotypic score</th>
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<td>1</td>
</tr>
<tr>
<td>2μg/ml</td>
<td>A</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>9</td>
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<td>E</td>
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<tr>
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<td>F</td>
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<tr>
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<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td></td>
</tr>
<tr>
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<td>E</td>
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<td>F</td>
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<tr>
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<td>B</td>
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<tr>
<td></td>
<td>E</td>
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<tr>
<td></td>
<td>F</td>
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Table S6. Small molecule compound 31B4 assayed at stage 15 showing phenotypic response to compound concentration

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<tr>
<td>2μg/ml</td>
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<tr>
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<td>D</td>
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<tr>
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<td>E</td>
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<tr>
<td></td>
<td>F</td>
<td>83</td>
</tr>
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<td>200ng/ml</td>
<td>C</td>
<td>19</td>
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<tr>
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<td>D</td>
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<td>F</td>
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<tr>
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<tr>
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<td>D</td>
<td>31</td>
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<tr>
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<td>F</td>
<td>58</td>
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<tr>
<td>200pg/ml</td>
<td>C</td>
<td></td>
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<tr>
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