### Table S1. Sequencing information for WES data

| Sample          | AYA01_Normal | AYA01_Tumor | AYA02_Normal | AYA02_Tumor | AYA04_Normal | AYA04_Tumor | AYA06_Normal | AYA06_Tumor | AYA07_Normal | AYA07_Tumor | AYA10_Normal | AYA10_Tumor | AYA10_Tumor |
|-----------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|-------------|-------------|
| Target Regions  | 199,259      | 199,259     | 199,259      | 199,259     | 199,259      | 199,259     | 199,259      | 199,259     | 199,259      | 199,259     | 199,259      | 199,259     | 199,259     |
| Bases in Target Region | 70,369,848 | 70,369,848 | 70,369,848 | 70,369,848 | 70,369,848 | 70,369,848 | 70,369,848 | 70,369,848 | 70,369,848 | 70,369,848 | 70,369,848 | 70,369,848 | 70,369,848 |
| Bases Sequenced | 14,340,725,784 | 13,394,620,000 | 17,853,383,170 | 15,593,444,136 | 26,970,195,236 | 19,997,019,694 |
| Mean Target Coverage | 145.01 | 129.82 | 118.97 | 103.26 | 205.08 | 190.36 |
| % of targets at coverage 30X | 92.61 | 91.91 | 90.29 | 87.03 | 96.04 | 91.00 |

<table>
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<tr>
<th>Sample</th>
<th>AYA06_Normal</th>
<th>AYA06_Tumor</th>
<th>AYA07_Normal</th>
<th>AYA07_Tumor</th>
<th>AYA10_Normal</th>
<th>AYA10_Tumor</th>
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<td>70,369,848</td>
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<tr>
<td>Bases Sequenced</td>
<td>20,503,746,592</td>
<td>19,863,262,162</td>
<td>13,348,069,706</td>
<td>13,796,972,488</td>
<td>12,669,135,182</td>
<td>12,476,740,282</td>
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<td>Mean Target Coverage</td>
<td>194.76</td>
<td>164.54</td>
<td>119.20</td>
<td>121.96</td>
<td>115.38</td>
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<td>% of targets at coverage 30X</td>
<td>95.55</td>
<td>93.93</td>
<td>89.44</td>
<td>88.84</td>
<td>90.8</td>
<td>86.03</td>
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<tr>
<td>Bases in Target Region</td>
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<td>70,369,848</td>
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<tr>
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<tr>
<td>Mean Target Coverage</td>
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<td>164.54</td>
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<tr>
<td>% of targets at coverage 30X</td>
<td>95.55</td>
<td>93.93</td>
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<td>Bases Sequenced</td>
<td>105,685,255,670</td>
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<td>% of targets at coverage 30X (mean)</td>
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<td>89.79</td>
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