Supplementary Table 1. Comparison of the scoring between conventional IHC staining and multiplex IHC/IF on the case shown in Figure 1 and supplementary Figure 1

<table>
<thead>
<tr>
<th></th>
<th>Conventional IHC</th>
<th>Multiplex IHC/IF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>22C3</td>
<td>SP142</td>
</tr>
<tr>
<td>CPS</td>
<td>40%</td>
<td>34%</td>
</tr>
<tr>
<td>TPS</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>IC</td>
<td>35%</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22C3</td>
</tr>
<tr>
<td>CPS</td>
<td>34%</td>
<td>49%</td>
</tr>
<tr>
<td>TPS</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>IC</td>
<td>29%</td>
<td>42%</td>
</tr>
</tbody>
</table>

* Combined Positive Score (CPS); Tumour Proportion Score (TPS); Immune Cells (IC).
Supplementary Figure 1. Representative whole slide images of multiplex IHC/IF of a triple negative breast cancer patient in the cohort. Image (A) showed PD-L1 22C3 staining, image (B) showed PD-L1 SP142 staining, image (C) showed PD-L1 SP263 staining and image (D) showed EpCAM as well as DAPI staining with the red boxes highlighted the regions of interest.

*Same tissue with higher magnification images are shown in Figure 1 and Supplementary Figure 2.
Supplementary Figure 2. Representative pseudo-IHC images of multiplex IHC/IF of a triple negative breast cancer patient in the cohort that shown in Figure 1. Image (A) showed PD-L1 22C3 staining with DAPI, image (B) showed PD-L1 SP142 staining with DAPI, image (C) showed PD-L1 SP263 staining with DAPI and image (D) showed EpCAM as well as DAPI staining. (Magnification: 400X)