Your Guide for Accurate Scoring in NSCLC
Using PD-L1 IHC 22C3 pharmDx (SK006)

Use this quick scoring guide as a reference when evaluating NSCLC specimens for PD-L1 expression using PD-L1 IHC 22C3 pharmDx when treatment with KEYTRUDA® (pembrolizumab) is being considered.

For more information on Tumor Proportion Score (TPS) assessment, review the NSCLC Interpretation Manual.

**Steps for scoring**

**Determine specimen adequacy**
Verify that the specimen has ≥ 100 viable tumor cells.

**Evaluate controls**
Ensure that Control Cell Line Slide and both lab-supplied and patient tissue controls demonstrate acceptable staining.

**Evaluate PD-L1 staining**
Estimate the number of PD-L1 staining tumor cells (TPS numerator) and the total number of viable tumor cells (TPS denominator).

**Calculate TPS to determine PD-L1 expression level**
Report TPS and PD-L1 expression level:
- TPS < 1% or TPS ≥ 1%

**Note:** PD-L1 expression level TPS ≥ 50% may be of interest to treating physician but does not determine eligibility for KEYTRUDA monotherapy.

**Definition of TPS and PD-L1 staining cells**

TPS is the percentage of viable tumor cells showing partial or complete membrane staining at any intensity (≥ 1+) relative to all viable tumor cells present in the sample.

\[
TPS (%) = \frac{\text{# PD-L1 staining cells (tumor cells)}}{\text{Total # of viable tumor cells}} \times 100
\]

**Note:** TPS is reported as a percent.

PD-L1 staining in NSCLC is defined as perceptible and convincing membrane staining of tumor cells (partial or complete) at any intensity (≥ 1+) that is perceived distinct from cytoplasmic staining. All staining of tumor-associated immune cells should be excluded from scoring.

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<table>
<thead>
<tr>
<th>Tissue Elements</th>
<th>Included in TPS Scoring for NSCLC</th>
<th>Excluded from TPS Scoring for NSCLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tumor Cells</td>
<td>Convincing partial or complete cell membrane staining (at any intensity) of viable tumor cells</td>
<td>Exclude any cytoplasmic staining</td>
</tr>
<tr>
<td>Immune Cells</td>
<td>Not included</td>
<td>Exclude any staining of immune cells, such as:</td>
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<tr>
<td></td>
<td></td>
<td>- Mononuclear inflammatory cells (large lymphocytes, monocytes, pulmonary macrophages)</td>
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<td></td>
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<td>- Plasma cells</td>
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<td></td>
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<td>- Neutrophils</td>
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<tr>
<td>Other Cells</td>
<td>Not included</td>
<td>Exclude any staining of:</td>
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<tr>
<td></td>
<td></td>
<td>- Normal cells adjacent to tumor cells</td>
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<tr>
<td></td>
<td></td>
<td>- Stromal cells (fibroblasts)</td>
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<tr>
<td></td>
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<td>- Necrotic cells and/or cellular debris</td>
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<td></td>
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<td>- Anthracotic pigment</td>
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**Case examples**

**TPS 0–10% case example***

**TPS 40–60% case example***

**PD-L1 staining characteristics in NSCLC**

Weak but perceptible and convincing membrane staining

Tumor cells vs. tumor-associated immune cells (TAIC)

* Image shown represents one field of view. TPS is derived from scoring the entire slide.