

**Name of Patient** : Mahesh Kumar

**Date** : 23/01/2024

**Age/Gender** : 44/M

**Barcode** : 44240000074

## PD-L1

### Programmed Death Ligand 1 Immunohistochemistry

#### Specimen Information

Gastric Biopsy (S-72/2024)


#### Clinical History

Poorly differentiated adenocarcinomas

#### Methodology

Immunohistochemistry

#### Immunohistochemistry Studies

Markers (Clone)	Results	Image
PD-L1 (22C3)	Tumor Proportion Score: 0%	

#### IHC Interpretation and Result

- Positive PD-L1 staining/expression is defined as complete and/or partial, circumferential or linear plasma membrane staining at any intensity that can be differentiated from background and diffuse cytoplasmic staining.
- The Tumor Proportion Score is the percentage of viable tumor cells showing partial or complete membrane staining ( $\geq 1+$ ) relative to all viable tumor cells present in the sample (positive and negative).
- Scoring is interpreted as follows :
  - No PD-L1 expression (TPS  $< 1\%$ )
  - Low PD-L1 expression (TPS 1-49%)
  - High PD-L1 expression (TPS  $\geq 50\%$ )
- The tumor should be considered PD-L1 positive, and the patient with NSCLC is eligible for pembrolizumab first-line therapy if the specimen shows high PD-L1 expression (TPS  $\geq 50\%$ ), while at least PD-L1 expression (1-49% TPS) is required for treatment in second-line or later.

5. Positive PD-L1 staining/expression is defined as complete and/or partial, circumferential or linear plasma membrane staining at any intensity that can be differentiated from background and diffuse cytoplasmic staining.
6. The percentage of tumor cells that exhibit PDL.1 expression is recorded as PD-L1 tumor cell (TC) score.
7. Combined Positive Score (CPS), which is the number of PD-L1 staining cells (tumor cells, lymphocytes, macrophages\*) divided by the total viable tumor cells, multiplied by 100. Although the result of the calculation can exceed 100, the maximum score is defined as CPS 100.
8. **Recurrent/ metastatic head and neck squamous cell carcinoma:** The specimen should be considered to have PD-L1 expression if  $CPS \geq 1$ .
9. **Gastric or Gastroesophageal Junction (GEJ) Adenocarcinoma:** The specimen should be considered to have PD-L1 expression if  $CPS \geq 1$ .
10. **Cervical cancer:** The specimen should be considered to have PD-L1 expression if  $CPS \geq 1$ .
11. **Urothelial cancer:** The specimen should be considered to have PD-L1 expression if  $CPS \geq 10$ .
12. **Esophageal Squamous Cell Carcinoma:** CPS greater than or equal to 10 PD-L1 IHC 22C3 pharmDx is indicated as an aid in identifying esophageal squamous cell cancer patients for treatment with KEYTRUDA® (pembrolizumab).

## Comments

1. Programmed Cell Death Ligand 1 (PD-L1) [also called B7 Homolog 1 (B7-H1) or CD274] is a protein encoded by the CD274 gene. It is crucial in maintaining immune homeostasis. PD-L1 works by attaching to the T-cell receptors called PD1 and B7.1 (both inactivate T cells). PD-L1 is an important prognostic and theranostic biomarker in the study of several neoplasms. PDL1 overexpression may facilitate tumor growth & metastasis, and has been observed in carcinomas of Lung, Thymus, Bladder, Colon, Pancreas, Ovary, Kidney, Breast, Melanoma and Glioblastoma.

## References

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## Reviewed By



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