

## Programmed Death Ligand 1 (PD-L1) Immunohistochemistry

**Clinician**  
 Clinician Name: Dr. Amish Vora  
 Medical Facility: Hope Clinic.  
 Pathologist: Not Provided

### Test Description

This test is useful for identification of neoplasms expressing programmed cell death 1-ligand 1 (clone 22C3). PD-L1 also known as B7 homolog 1 (B7-H1) or CD274, is a transmembrane protein involved in the regulation of cell-mediated immune responses through interaction with the receptor programmed death protein-1 (PD-1). PD-L1 has been identified as both a prognostic and theranostic marker in a variety of neoplasms. Overexpression of PD-L1 has been observed in carcinomas of the urinary bladder, lung, thymus, colon, pancreas, ovary, breast, kidney, and in melanoma and glioblastoma.

### Specimen

**Sample Type:** FFPE block S-15054/18  
**Site:** Esophagus  
**Pathology ID:** MOLQ/IHC-45112019  
**Disease:** Moderately Differentiated Squamous Cell Carcinoma

### Interpretation

The scoring system is based on type and origin of tumor. If additional interpretation or analysis is needed, send request for Pathology Consultation.

### Methodology

Immunostaining for PD-L1 protein was done using Dako Monoclonal Mouse Anti- PD-L1/22C3.  
 Positive PD-L1 staining/expression is defined as complete and/or partial, circumferential or linear plasma membrane or cytoplasmic staining at any intensity that can be differentiated from background.

No. of PDL-1 staining cells (Tumor cells, Tils) x100

Combined Positive Score:  $\frac{\text{No. of PDL-1 staining cells (Tumor cells, Tils)}}{\text{Total No. of Viable Cells (Tumor cells)}} \times 100$   
 (CPS)

### Note

Preclinical studies suggest that positive programmed cell death 1-ligand 1 (PD-L1) immunohistochemistry in tumor cells may predict tumor response to therapy with immune checkpoint inhibitors. This result should not be used as the sole factor in determining treatment, as other factors (eg, tumor mutation burden and microsatellite instability) have also been studied as predictive markers.

### References

1. Rosai and Ackerman's Surgical Pathology.
2. Modern Surgical Pathology.
3. PD-L1 and gastric cancer prognosis: A systematic review and meta-analysis. Lihu Gu, Manman Chen, Dongyu Guo, Hepan Zhu, Wenchao Zhang. PLOS ONE August 2017
4. Immune Profiling of Adenoid Cystic Carcinoma: PD-L2 Expression and Associations with Tumor-Infiltrating Lymphocytes Vishwajith Sridharan et al. Cancer Immunology Research 2016

### Reviewed By



**Dr. Gulshan Yadav, MD**  
 Head, Pathology

### Programmed Death Ligand 1 (PD-L1): Positive

#### COMBINED POSITIVE SCORE

**CPS: 35%**

PD-L1 IHC- Tumor

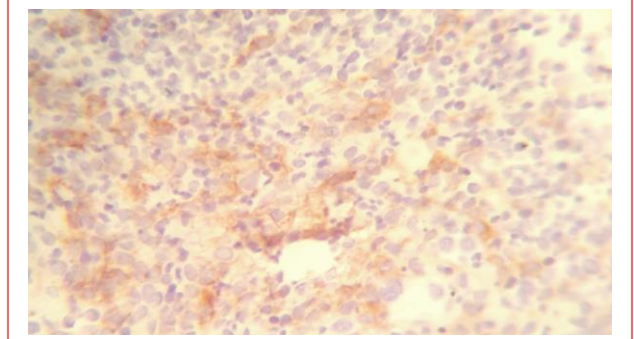


Figure 1

PD-L1 IHC- Immune Cells

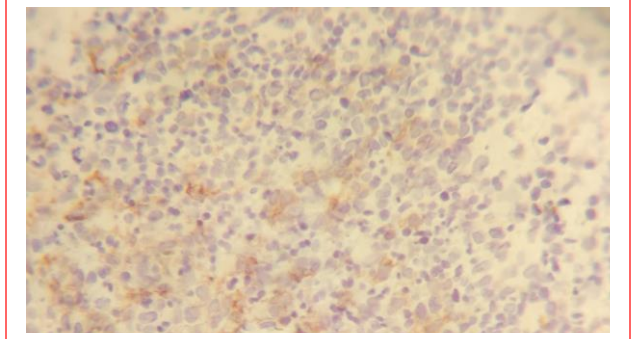


Figure 2