

Programmed Death Ligand 1 (PD-L1) Immunohistochemistry

Test Description

This test is useful for identification of neoplasms expressing programmed cell death 1-ligand 1 (clone SP263). 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 cell block H-9160/22A
Site: Urinary Bladder
Pathology ID: MOLQ/IHC 009/23
Disease: Urothelial Carcinoma.

Interpretation

TPS = Number of PD-L1 positive tumor cells $\times 100$ %/Total number of PD-L1 positive + PD-L1 negative tumor cells.

CPS = Number of PD-L1 staining cells (tumor cells, lymphocytes, macrophages) $\times 100$ %/Total number of viable tumor cells.

Urothelial carcinoma

CPS divided into 2 groups:
CPS < 10: no PD-L1 expression
CPS \geq 10: PD-L1 expression.

Methodology

Immunostaining for PD-L1 protein was done using Ventana Rabbit Anti-Human PD-L1/CD274 Monoclonal Antibody (Clone SP-263) on Ventana Autostainer. 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.

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.

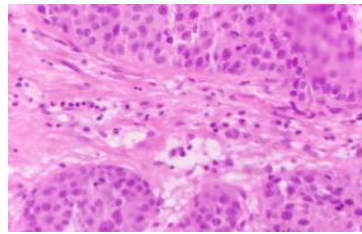
Microscopy Evaluation

Adequate tumor cells (> 100 cells) are present: Yes

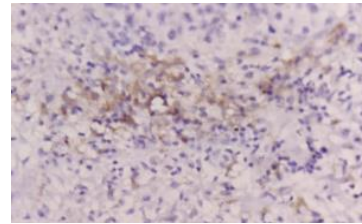
Tumor Proportion Score (TPS) % = 0%

Combined Positive Score (CPS) % = 2%

HE Stained Section



PD-L1 IHC- Tumor Cells



PD-L1 Immunostaining- No Expression

Reviewed By



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