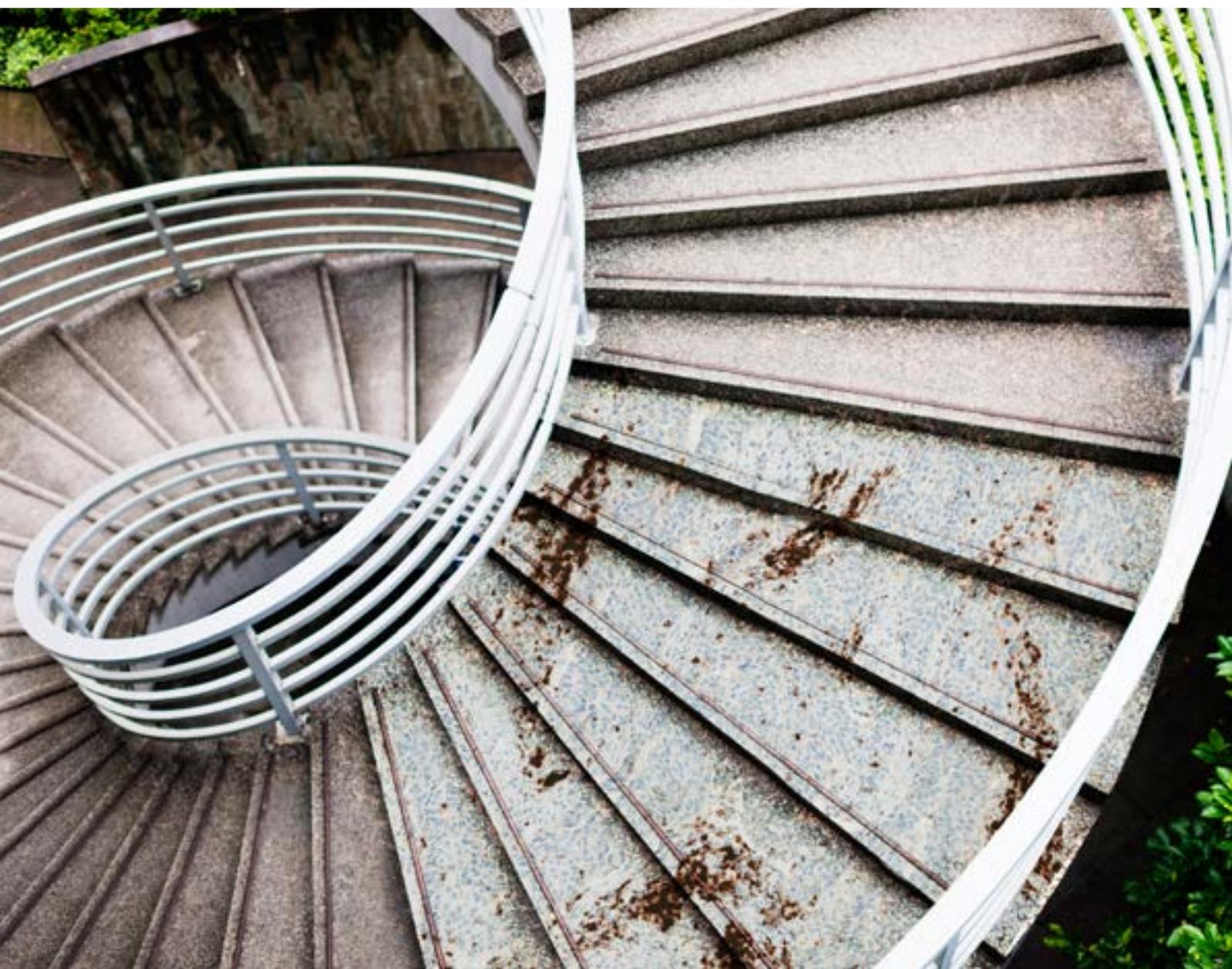


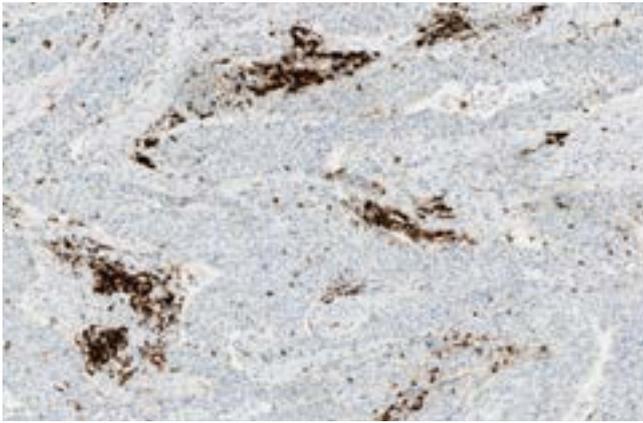
VENTANA PD-L1 (SP142) IHC Assay

Step into the tumor microenvironment

PM-16-0025



The VENTANA PD-L1 (SP142) IHC Assay includes a ready-to-use IVD IHC antibody for evaluating expression of PD-L1 protein in tumor cells and tumor infiltrating immune cells using the OptiView DAB IHC Detection Kit.



Positive urothelial carcinoma tissue stained with PD-L1 (SP142) IHC Assay, 10x

VENTANA PD-L1 (SP142) IHC Assay

VENTANA PD-L1 (SP142) IHC Assay is used to evaluate expression of PD-L1 protein in tumor cells and tumor infiltrating immune cells. PD-L1 expression may lead to inhibition of activated T cells and, therefore, can indicate tumor immune evasion. This assay is highly specific, reproducible and designed to enhance visual contrast of immune cell staining within the tumor microenvironment.

The PD-L1 (SP142) IHC Assay is an immunohistochemical assay that utilizes a rabbit monoclonal primary antibody (SP142) produced against PD-L1 (B7-H1, CD274). The cellular staining pattern for this assay is partial or complete circumferential membrane staining of tumor cells (with or without cytoplasmic component) and punctate or linear membrane staining of immune cells.

About PD-L1

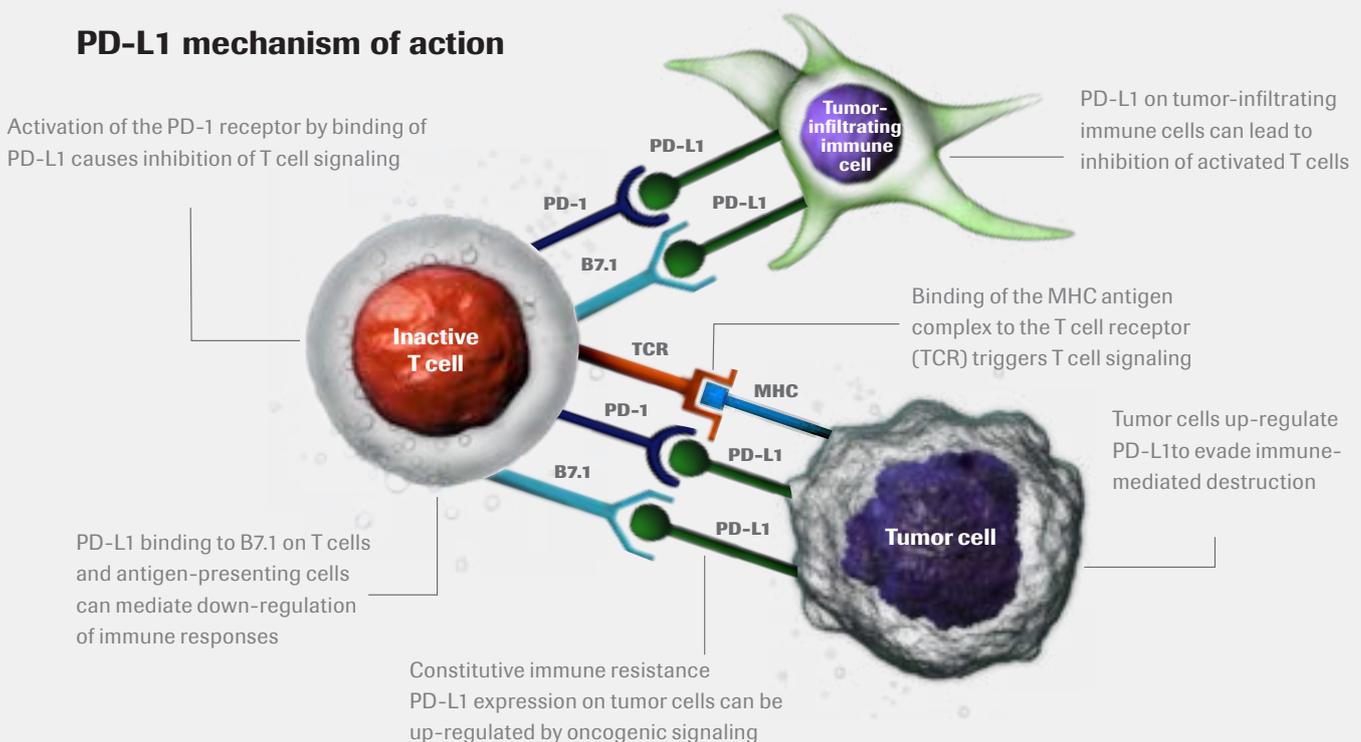
PD-L1 is a transmembrane protein that down-regulates immune responses through binding to its two inhibitory receptors, programmed death-1 (PD-1) and B7.1. PD-1 is an inhibitory receptor expressed on T cells following T-cell activation, which is sustained in states of chronic stimulation such as in chronic infection or cancer.¹ Ligation of PD-L1 with PD-1 inhibits T cell proliferation, cytokine production and cytolytic activity, leading to the functional inactivation or exhaustion of T cells. B7.1 is a molecule expressed on antigen presenting cells and activated T cells. PD-L1 binding to B7.1 on T cells and antigen presenting cells can mediate down-regulation of immune responses, including inhibition of T-cell activation and cytokine production.² PD-L1 expression has been observed in immune cells and tumor cells.^{3,4} Aberrant expression of PD-L1 on tumor cells has been reported to impede anti-tumor immunity, resulting in immune evasion.¹

PD-L1 in Cancer

PD-L1 is expressed in a wide range of tumors with a high frequency, up to 88% in some types of cancer. In the tumor microenvironment PD-L1 expressed on tumor cells binds to PD-1 on activated T cells reaching the tumor. This delivers an inhibitory signal to those T cells, preventing them from killing target tumor cells and protecting the tumor from immune elimination.⁵

PD-L1 mechanism of action

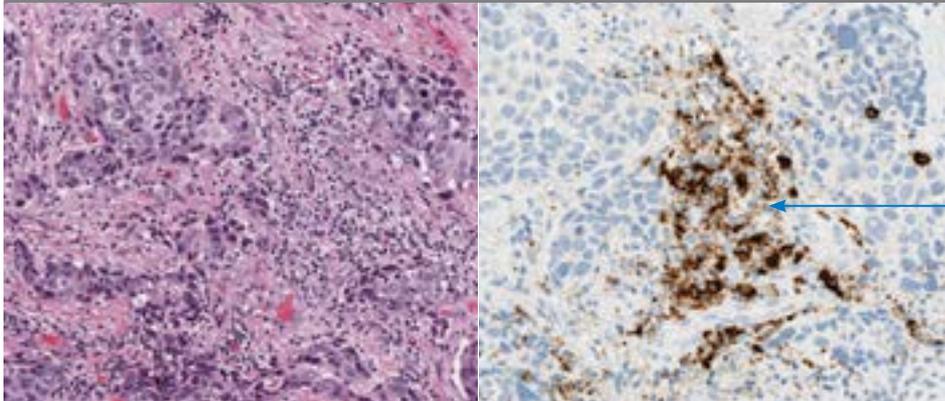
Activation of the PD-1 receptor by binding of PD-L1 causes inhibition of T cell signaling



PD-L1 expression in the tumor microenvironment

The PD-L1 (SP142) IHC Assay stain highlights a heterogeneous population of immune cells. The majority of these cells are morphologically consistent with lymphocytes, macrophages, dendritic cells and granulocytes. Immune cell staining can be observed as aggregates in intratumoral or contiguous peritumoral stroma as single-cell spread among tumor cells, or in association with tumor cell staining.

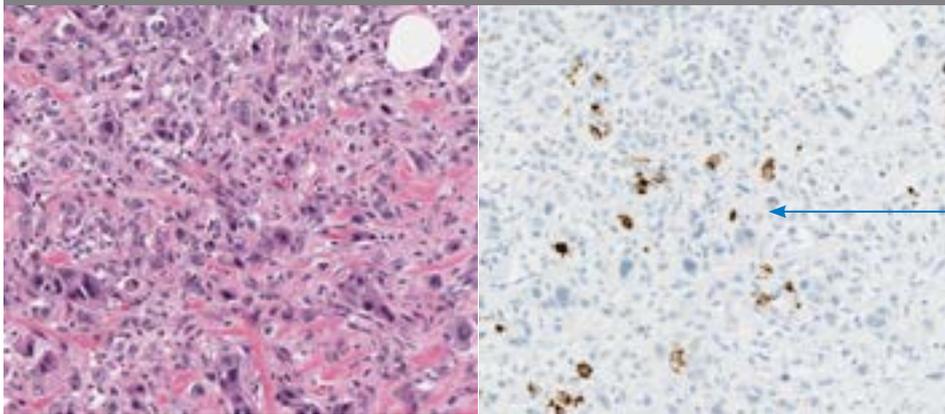
Often observed as aggregates in the intra- or peritumoral stroma



Punctate IC staining in the intratumoral stroma

Urothelial carcinoma tissue, 10x

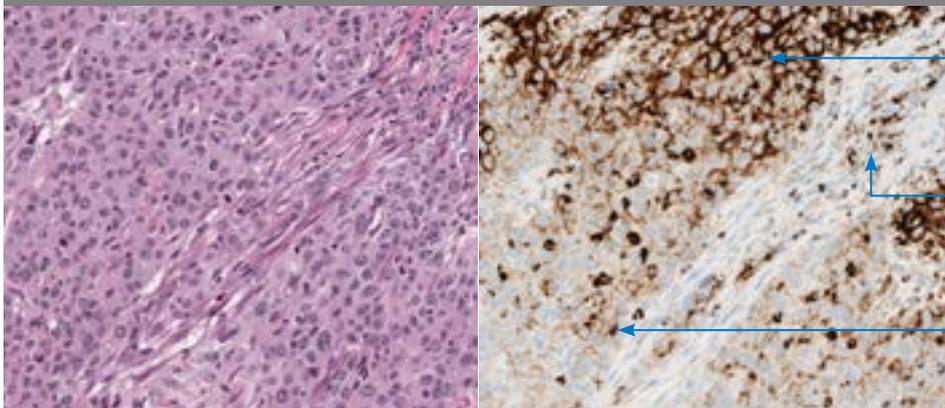
Occasionally observed as single-cell spread (diffuse) among tumor cells with or without aggregates



IC single-cell spread

Urothelial carcinoma tissue, 10x

Staining occasionally observed in TC and IC simultaneously



Strong TC staining

IC aggregate in the stroma

IC single-cell spread

Urothelial carcinoma tissue, 10x

VENTANA PD-L1 (SP142) IHC Assay

Catalog Number	790-4860
Ordering Code	07011571001
Quantity	50 tests
Positive Control	Tonsil
Species	Rabbit
Localization	Membranous and/or cytoplasmic

Automation: Optimized for use on the VENTANA BenchMark IHC/ISH instruments

Detection: Optimized with OptiView DAB IHC Detection Kit (760-700[0639650001]) and OptiView Amplification Detection Kit [760-099, 860-099]

References

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