# PD-L1 IHC 28-8 pharmDx Is CE-IVD Marked to Identify Muscle Invasive Urothelial Carcinoma (MIUC) Patients for Treatment with OPDIVO® as an Adjuvant Therapy

More personalized cancer results.
One test makes it possible.

## There is increasing scientific evidence that highlights the role of PD-L1 expression in the prognosis of muscle invasive urothelial carcinoma (MIUC).[1, 2, 3]

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**PD-L1 IHC 28-8 pharmDx is the only clinically validated test which aids in identifying appropriate patients with invasive MIUC and with ≥ 1% tumor cell expression, that are at high-risk of recurrence after undergoing radical resection, for the adjuvant treatment with OPDIVO (nivolumab).**

- Bladder cancer is the tenth most common cancer with approximately 573,000 new cases and 213,000 deaths reported in 2020.[4]
- Urothelial carcinoma accounts for about 90% of all bladder cancers. It begins in the urothelial cells found in the urinary tract.[5]
- MIUC grows into the bladder's wall muscle and sometimes into the fatty layers or surrounding tissues or organs outside the bladder.[5]
- Results of PD-L1 testing with PD-L1 IHC 28-8 pharmDx in CheckMate-274[6] study indicate its use as an aid in identifying MIUC patients with ≥ 1% tumor cell expression for adjuvant treatment with nivolumab.
- PD-L1 IHC 28-8 pharmDx has been analytically validated for specificity, sensitivity, and reproducibility, and shows high clinical utility across various indications.[7]

**PD-L1 IHC 28-8 pharmDx is the only CE-IVD marked diagnostic aid to identify MIUC patients for the adjuvant treatment with OPDIVO (nivolumab), and is associated with a disease-free survival benefit to OPDIVO treatment.**

CheckMate-274 is a phase 3 randomized, double-blind, multi-center study of adjuvant nivolumab versus placebo in subjects with invasive MIUC that are at high-risk of recurrence after undergoing radical resection.

CheckMate-274 results highlight disease-free survival (DFS) benefit from OPDIVO (nivolumab) for MIUC patients with ≥ 1% tumor cell expression.

■ Placebo ■ OPDIVO

**DFS data for all randomized subjects**

**Median DFS (mo) (95% CI)**

**10.84 (8.25, 13.86)**

**20.76 (16.49, 27.63)**

Hazard Ratio (HR)
**0.70**
(98.22% CI, 0.55–0.90)

**DFS data for subjects with ≥ 1% tumor cell expression**

**Median DFS (mo) (95% CI)**

**8.41 (5.59, 21.19)**

**N.R. (21.19, N.E.)**

Hazard Ratio (HR)
**0.55**
(98.72% CI, 0.35–0.85)

N.R. Not reached, N.E. Not estimable




1. Wu C-T., Chen W-C., et al. The role of PD-L1 in the radiation response and clinical outcome for bladder cancer. *Sci. Rep.* **2016**, 6(19740), 1-9.
2. Liu H., Ye. T., et al. Predictive and Prognostic Role of PD-L1 in Urothelial Carcinoma Patients with Anti-PD-1/PD-L1 Therapy: A Systematic Review and Meta-Analysis. *Hindawi.* **2020**, Article ID 8375348, 1-16.
3. Huang. Y., Zhang. S-D., et al. The prognostic significance of PD-L1 in bladder cancer. *Onc. Rep.* **2015**, 33(6), 3075-3084.
4. Sung. H., Ferlay. J., et al. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries, *CA. Cancer. J. Clin.* **2021**, 71, 209–249.
5. https://www.cancer.net/cancer-types/bladder-cancer/introduction
6. Bajorin D. F., Witjes A., et al. Adjuvant Nivolumab versus Placebo in Muscle-Invasive Urothelial Carcinoma. *N. Engl. J. Med.* **2021**, 366, 2455-2465.
7. PD-L1 IHC 28-8 pharmDx Instructions for Use.


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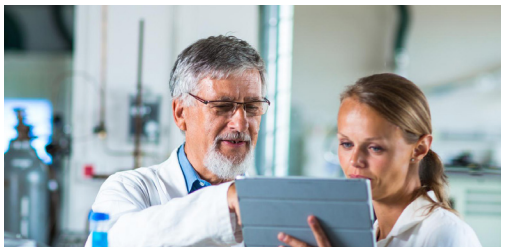
## Report confidently using PD-L1 IHC 28-8 pharmDx

- Integrate PD-L1 IHC 28-8 pharmDx into your Dako IHC setup without changing the staining workflow
- Preprogrammed, validated protocol
- Ready-to-use reagents and control slides optimized for Autostainer Link 48
- Comprehensive educational and training resources are available to enable your lab to optimize your workflow and shorten the turnaround time



## Benefits of early testing with PD-L1 IHC 28-8 pharmDx

Early PD-L1 testing is not only important for oncologists to guide treatment decisions, but also provides added benefits.

### Sample availability

Incorporating PD-L1 IHC 28-8 pharmDx testing in the diagnostic investigation of MIUC patients ensures sample availability at the time of diagnosis.

### Patient care

Early testing may ensure the availability of results during the initial treatment, planning, and patient dialogue, eliminating the need to wait for testing.

### Laboratory efficiency

Can be incorporated during other IHC and molecular testing for patients.

## Intended Use

### For In Vitro Diagnostic Use

PD-L1 IHC 28-8 pharmDx is a qualitative immunohistochemical assay using Monoclonal Rabbit Anti-PD-L1, Clone 28-8 intended for use in the detection of PD-L1 protein in formalin-fixed, paraffin-embedded (FFPE) non-squamous non-small cell lung cancer (nsNSCLC), squamous cell carcinoma of the head and neck (SCCHN), urothelial carcinoma (UC), melanoma, gastric adenocarcinoma, gastroesophageal junction (GEJ) adenocarcinoma, and esophageal carcinoma tissues using EnVision FLEX visualization system on Autostainer Link 48.

PD-L1 protein expression in nsNSCLC, SCCHN, UC, muscle invasive urothelial carcinoma (MIUC), melanoma, and esophageal squamous cell carcinoma (ESCC) is determined by using % tumor cell expression, which is the percentage of evaluable tumor cells exhibiting partial or complete membrane staining at any intensity.

PD-L1 protein expression in gastric adenocarcinoma, GEJ adenocarcinoma, and esophageal adenocarcinoma is determined by using Combined Positive Score (CPS), which is the number of PD-L1 staining cells (tumor cells, lymphocytes, macrophages) divided by the total number of viable tumor cells, multiplied by 100.

### Companion Diagnostic Indications

| Tumor Indication | PD-L1 Expression Clinical Cutoff | Intended Use |
|---|---|---|
| MIUC | ≥ 1% tumor cell expression | PD-L1 IHC 28-8 pharmDx is indicated as an aid in identifying MIUC patients for treatment with OPDIVO® (nivolumab). |
| ESCC | ≥ 1% tumor cell expression | PD-L1 IHC 28-8 pharmDx is indicated as an aid in identifying ESCC patients for treatment with OPDIVO® (nivolumab) in combination with fluoropyrimidine and platinum-based chemotherapy or OPDIVO® (nivolumab) in combination with YERVOY® (ipilimumab). |
| Gastric, GEJ, or Esophageal Adenocarcinoma | CPS ≥ 5 | PD-L1 IHC 28-8 pharmDx is indicated as an aid in identifying gastric, gastroesophageal junction, or esophageal adenocarcinoma patients for treatment with OPDIVO® (nivolumab) in combination with fluoropyrimidine and platinum-based chemotherapy. |

PD-L1 expression (≥ 1% or ≥ 5% or ≥ 10% tumor cell expression), as detected by PD-L1 IHC 28-8 pharmDx in non-squamous NSCLC (nsNSCLC) may be associated with enhanced survival from OPDIVO® (nivolumab).

PD-L1 expression (≥ 1% tumor cell expression), as detected by PD-L1 IHC 28-8 pharmDx in SCCHN may be associated with enhanced survival from OPDIVO® (nivolumab).

PD-L1 expression (≥ 1% tumor cell expression), as detected by PD-L1 IHC 28-8 pharmDx in urothelial carcinoma may be associated with enhanced response rate from OPDIVO® (nivolumab).

PD-L1 expression (≥ 1% or ≥ 5% tumor cell expression), as detected by PD-L1 IHC 28-8 pharmDx in melanoma may be used as an aid in the assessment of patients for whom OPDIVO® (nivolumab) and YERVOY® (ipilimumab) combination treatment is being considered.

See the OPDIVO® and YERVOY® product labels for specific clinical circumstances guiding PD-L1 testing.

Please go to **www.agilent.com/library/eifu** and find the correct IFU version for your Kit Lot Number.

**Check the local OPDIVO and YERVOY product labels for approved indications and expression cutoff values to guide therapy.**

This information is subject to change without notice.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