

## Product datasheet

# PD-L1 / PD1 Multiplex IHC-IF Antibody Panel (PD-L1, PD1, CD68, CD3, Ki67, panCK) ab269812

[2 Images](#)

### Overview

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<b>Product name</b>	PD-L1 / PD1 Multiplex IHC-IF Antibody Panel (PD-L1, PD1, CD68, CD3, Ki67, panCK)
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Product overview</b>	PD-L1 / PD1 Multiplex IHC-IF Antibody Panel (PD-L1, PD1, CD68, CD3, Ki67, panCK) is specifically designed and validated for multiplex analysis of the tumor microenvironment (TME) using tyramide signal amplification (TSA) on human formalin fixed paraffin-embedded tissue (FFPE) sections. The order of staining and antibody dilutions have been optimized on human tonsil FFPE tissue.

This panel empowers researchers to explore the spatial interactions of these important immunology biomarkers, immune checkpoint proteins and immune cell-phenotyping markers within the tumor micro-environment. It allows for the 6 targets to be fluorescently detected on the same tissue section, plus a nuclear counterstain (DAPI).

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 7-color automation IHC kit (NEL821001KT, Akoya Biosciences®). Please refer to this kit's protocol for directions on how to perform the immunostaining.

The panel contains enough reagents for a minimum of 50 slides.

Panel contents, recommended order of staining and dilutions:

1. Recombinant PD1 antibody [CAL20] [ab237728](#) (50 µl)

1/500 dilution; Opal™520

2. Recombinant PD-L1 antibody [CAL10] [ab237726](#) (50 µl)

1/500 dilution; Opal™540

3. Recombinant CD68 antibody [SP251] [ab192847](#) - Macrophage marker (50 µl)

1/300 dilution; Opal™570

4. CD3 antibody [SP7] [ab16669](#) - T cell marker (50 µl)

1/300 dilution; Opal™620

5. Recombinant Ki67 antibody [SP6] [ab16667](#) - Proliferation marker (50 µl)

1/200 dilution; Opal™650

6. Pan-cytokeratin antibody [C-11] [ab7753](#) - Epithelial tissue marker (50 µg)

1/200 dilution; Opal™690

## Tested applications

**Suitable for:** mIHC

## Properties

### Storage instructions

Please refer to protocols.

Components	1 kit
<a href="#">ab16669 - Anti-CD3 antibody [SP7]</a>	1 x 50µl
<a href="#">ab7753 - Anti-pan Cytokeratin antibody [C-11]</a>	1 x 50µg
<a href="#">ab192847 - Recombinant Anti-CD68 antibody [SP251]</a>	1 x 50µl
<a href="#">ab16667 - Recombinant Anti-Ki67 antibody [SP6]</a>	1 x 50µl
<a href="#">ab237728 - Recombinant Anti-PD1 antibody [CAL20]</a>	1 x 50µl
<a href="#">ab237726 - Recombinant Anti-PD-L1 antibody [CAL10]</a>	1 x 50µl

### Cellular localization

CD3: Membrane. CD68: Cell membrane and Endosome membrane. Lysosome membrane. Ki67: Chromosome. Nucleus. Nucleus, nucleolus. Associates with the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the mitotic chromosome surface (PubMed:27362226). Associates with satellite DNA in G1 phase (PubMed:9510506). Binds tightly to chromatin in interphase, chromatin-binding decreases in mitosis when it associates with the surface of the condensed chromosomes (PubMed:15896774, PubMed:22002106). Predominantly localized in the G1 phase in the perinucleolar region, in the later phases it is also detected throughout the nuclear interior, being predominantly localized in the nuclear matrix (PubMed:22002106). pan Cytokeratin: Cytoplasmic PD1: Membrane. PD-L1: Cell membrane and Endomembrane system.

## Applications

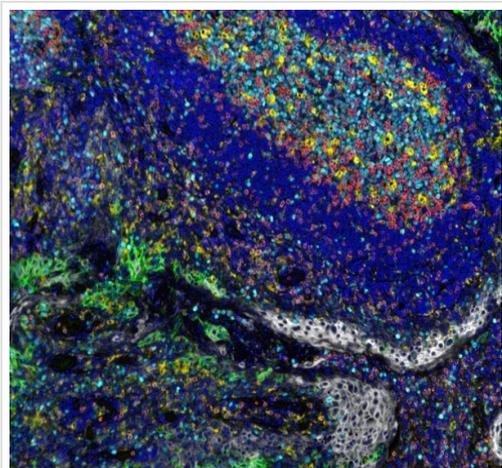
### The Abpromise guarantee

Our [Abpromise guarantee](#) covers the use of [ab269812](#) in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
mIHC		Use at an assay dependent concentration.

## Images



Fluorescence multiplex immunohistochemical analysis of normal human tonsil tissue (formalin-fixed paraffin-embedded section)

Fluorescence multiplex immunohistochemical analysis of normal human tonsil tissue (formalin-fixed paraffin-embedded section).

Merged staining of anti-PD1 ([ab237728](#); orange; Opal™520), anti-PDL1 ([ab237726](#); green; Opal™540), anti-CD68 ([ab192847](#); yellow; Opal™570), anti-CD3 ([ab16669](#); red; Opal™620), anti-Ki67 ([ab16667](#); light blue; Opal™650) and anti-PanCK ([ab7753](#); grey; Opal™690).

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 7-color automation IHC kit (NEL821001KT, Akoya Biosciences®).

The section was incubated in six rounds of staining; in the order of [ab237728](#) (1/500 dilution), [ab237726](#) (1/500 dilution), [ab192847](#) (1/300 dilution), [ab16669](#) (1/300 dilution), [ab16667](#) (1/200 dilution) and [ab7753](#) (1/200 dilution); each using a separate fluorescent tyramide signal amplification system.

Sodium citrate antigen retrieval (Leica ER1, pH6.0, 30 minutes) was used in between rounds of tyramide signal amplification to remove the antibody from the previous round, to avoid any cross-reactivity.

DAPI (dark blue) was used as a nuclear counter stain.

Microscopy and pseudocoloring of individual Opal™ dyes was performed using a Vectra Polaris.

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

PD-L1 / PD1 Multiplex IHC-IF Antibody Panel (PD-L1, PD1, CD68, CD3, Ki67, panCK) (ab269812)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

### Our Abpromise to you: Quality guaranteed and expert technical support

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- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

### Terms and conditions

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