

## iF560 Anti-Human CD279 (PD1) Antibody

|                           |                     |
|---------------------------|---------------------|
| <b>Catalog Number:</b>    | 101403, 101404      |
| <b>Size:</b>              | 25 tests, 100 tests |
| <b>Target Name:</b>       | CD279, PD1, PD-1    |
| <b>Regulatory Status:</b> | RUO                 |

### PRODUCT DETAILS

---

|                               |                                                                                                                                                                                                                                                                                             |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Clone:</b>                 | 279AM1                                                                                                                                                                                                                                                                                      |
| <b>Application:</b>           | Flow Cytometry                                                                                                                                                                                                                                                                              |
| <b>Reactivity:</b>            | Human                                                                                                                                                                                                                                                                                       |
| <b>Format:</b>                | iF560                                                                                                                                                                                                                                                                                       |
| <b>Isotype:</b>               | Mouse IgG1                                                                                                                                                                                                                                                                                  |
| <b>Antibody Type:</b>         | Monoclonal                                                                                                                                                                                                                                                                                  |
| <b>Formulation:</b>           | Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA                                                                                                                                                                                                       |
| <b>Protein Concentration:</b> | Supplied at a lot-specific concentration.                                                                                                                                                                                                                                                   |
| <b>Storage&amp;Handling:</b>  | The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.                                                                                                                                                        |
| <b>Recommended Usage:</b>     | For flow cytometric staining, it is recommended to use 5 µL of this reagent per 0.5-1.0 million cells in a 100 µL volume. Optimal reagent performance should be determined by titration for each specific application. iF560 has an excitation max at 560 nm and an emission max at 571 nm. |
| <b>Excitation Laser:</b>      | Green/Yellow laser (532/561nm)                                                                                                                                                                                                                                                              |
| <b>Isotype Control:</b>       | 301411                                                                                                                                                                                                                                                                                      |
| <b>RRID:</b>                  | AB_3738611                                                                                                                                                                                                                                                                                  |

### BACKGROUND INFORMATION

---

CD279, also known as Programmed Cell Death Protein 1 (PD-1), is a crucial immune checkpoint receptor that regulates T cell activation and prevents autoimmunity. This transmembrane protein plays a pivotal role in maintaining immune homeostasis by delivering inhibitory signals that dampen excessive immune responses.

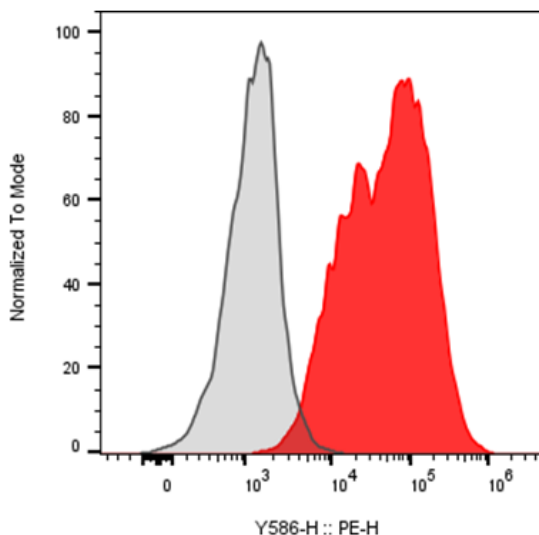
PD-1 is a type I transmembrane glycoprotein belonging to the immunoglobulin superfamily. It contains an extracellular immunoglobulin variable (IgV)-like domain, a transmembrane region, and an intracellular tail with two tyrosine-based signaling motifs: an immunoreceptor tyrosine-based inhibitory motif (ITIM) and an immunoreceptor tyrosine-based switch motif (ITSM). When engaged, these motifs recruit phosphatases that inhibit T-cell receptor signaling, effectively suppressing T-cell activation, proliferation, and cytokine production.

PD-1 interacts with two primary ligands: PD-L1 (B7-H1/CD274) and PD-L2 (B7-DC/CD273). PD-L1 is widely expressed on various cell types, including tumor cells, antigen-presenting cells, and non-hematopoietic tissues, while PD-L2 expression is more restricted to antigen-presenting cells. These ligand-receptor interactions serve as critical brakes on immune responses. In cancer, tumor cells exploit the PD-1/PD-L1 pathway to evade immune surveillance. By upregulating PD-L1 expression, tumors effectively "turn off" infiltrating T-cells, preventing effective anti-tumor immunity. This mechanism contributes to tumor progression and immune escape across multiple cancer types.

The discovery of PD-1's role in cancer has revolutionized oncology through immune checkpoint inhibitors. Monoclonal antibodies targeting PD-1 (pembrolizumab, nivolumab) or PD-L1 (atezolizumab, durvalumab) block this inhibitory pathway, reinvigorating anti-tumor T-cell responses. These therapies have demonstrated remarkable success in treating melanoma, non-small cell lung cancer, renal cell carcinoma, and numerous other malignancies, fundamentally transforming cancer treatment paradigms and offering durable responses in previously untreatable cancers.

## PRODUCT DATA

---



Anti-human CD3 and Anti-Human CD28 stimulated human peripheral blood lymphocytes was stained with iF560 Anti-Human CD279 clone 279AM1 (color-filled histogram) or an isotype control (gray histogram).

This product is supplied subject to the terms and conditions at [www.innocyto.com/web/terms.php](http://www.innocyto.com/web/terms.php) and may only be used as provided in the stated terms. Products are for Research Use Only.