## CD279 (PD-1) Monoclonal Antibody (eBioJ105 (J105)), APC, eBioscience™

**Catalog Number** 17-2799-42

### Details

<table>
<thead>
<tr>
<th>Size</th>
<th>100 Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host/Isotope</td>
<td>Mouse / IgG1, kappa</td>
</tr>
<tr>
<td>Class</td>
<td>Monoclonal</td>
</tr>
<tr>
<td>Type</td>
<td>Antibody</td>
</tr>
<tr>
<td>Clone</td>
<td>eBioJ105 (J105)</td>
</tr>
<tr>
<td>Conjugate</td>
<td>APC</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Concentration</td>
<td>5 µL/Test</td>
</tr>
<tr>
<td>Purification</td>
<td>Affinity chromatography</td>
</tr>
<tr>
<td>Storage buffer</td>
<td>PBS, pH 7.2, with 0.2% BSA</td>
</tr>
<tr>
<td>Contains</td>
<td>0.09% sodium azide</td>
</tr>
<tr>
<td>Storage Conditions</td>
<td>4°C, store in dark, DO NOT FREEZE!</td>
</tr>
</tbody>
</table>

### Species Reactivity

- **Species reactivity**: Human, Rhesus monkey
- **Published species**: Non-human primate, Human, Mouse, Rhesus monkey

### Tested Applications

- **Dilution**: 5 µL (1 µg)/test

### Published Applications

- **Flow Cytometry (Flow)**
  - See 16 publications below

### Species Information

**Description**: The J105 monoclonal antibody reacts with the human PD-1 (programmed death-1), a 55 kDa member of the CD28 immunoglobulin superfamily. PD-1 contains the immunoreceptor tyrosine-based inhibitory motif (ITIM) and plays a key role in peripheral tolerance and autoimmune disease. PD-1 is expressed predominantly on activated T and B lymphocytes. Two novel members of the B7 family have been identified as the PD-1 ligands, PD-L1 (B7-H1) and PD-L2 (B7-DC). Evidence reported to date suggests overlapping functions for these two PD-1 ligands and their constitutive expression on some normal tissues and upregulation on activated antigen-presenting cells. Costaining experiments suggest that eBioJ105 recognizes a different epitope than MIH4 (cat. 11-9939).

**Applications Reported**: This eBioJ105 (J105) antibody has been reported for use in flow cytometric analysis. Applications Tested: This eBioJ105 (J105) antibody has been pre-titrated and tested by flow cytometric analysis of stimulated normal human peripheral blood cells. This can be used at 5 µL (1 µg) per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test. Excitation: 633-647 nm; Emission: 660 nm; Laser: Red Laser. Filtration: 0.2 µm post-manufacturing filtered.

**Background/Target Information**

Cell-mediated immune responses are initiated by T lymphocytes that are themselves stimulated by cognate peptides bound to MHC molecules on antigen-presenting cells (APC). T-cell activation is generally self-limited as activated T cells express receptors such as PD-1 (also known as PDCD-1) that mediate inhibitory signals from the APC. PD-1 can bind two different but related ligands, PD-L1 and PD-L2. Upon binding to either of these ligands, signals generated by PD-1 inhibit the activation of the immune response in the absence of “danger signals” such as LPS or other molecules associated with bacteria or other pathogens. Evidence for this is seen in PD1-null mice who exhibit hyperactivated immune systems and autoimmune diseases. Despite its predicted molecular weight, PD-1 often migrates at higher molecular weight in SDS-PAGE.

---

**CD279 (PD-1) Antibody (17-2799-42)**

Antibody clone (eBioJ105 (J105)) specificity was demonstrated by CRISPR-Cas9 mediated knockout of target protein. Loss of signal was observed for target protein in eBioJ105 (J105) KO cells (left) compared to the control Cas9 cells (right) using CD279 antibody (eBioJ105 (J105)). [KO]

**CD279 (PD-1) Antibody (17-2799-42) in Flow**

Staining of unstimulated (blue histogram) or 3-day PHA-stimulated (purple histogram) normal human peripheral blood cells with Anti-Human CD279 (PD-1) APC. Cells in the lymphocyte gate were used for analysis.
<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human / Not Cited</strong></td>
<td>17-2799 was used in Flow cytometry/Cell sorting to identify HIV-1-suppressing agents that can inhibit HIV-1 reactivation and reduce HIV-1-induced immune activation. The Journal of clinical investigation (2020; 130: 4969) &quot;Filgotinib suppresses HIV-1-driven gene transcription by inhibiting HIV-1 splicing and T cell activation.&quot; Author(s): Yeh YJ, Jenike KM, Calvi RM, Chiarella J, Hoh R, Deeks SG, Ho YC PubMed Article URL:<a href="http://dx.doi.org/10.1172/JCI137371">http://dx.doi.org/10.1172/JCI137371</a></td>
</tr>
<tr>
<td><strong>Rhesus monkey / Not Cited</strong></td>
<td>17-2799 was used in Flow cytometry/Cell sorting to investigate methods to block antibody-mediated rejection of organ transplant, showing that belatacept and 2C10R4 selectively suppresses the humoral response via regulating Tfh cells and prevents antibody-mediated rejection. American journal of transplantation: official journal of the American Society of Transplantation and the American Society of Transplant Surgeons (2014; 14: 59) &quot;Costimulation blockade alters germinal center responses and prevents antibody-mediated rejection.&quot; Author(s): Kim EJ, Kwun J, Gibby AC, Hong JJ, Farris AB, Iwakoshi NN, Villinger F, Kirk AD, Khechele SJ PubMed Article URL:<a href="http://dx.doi.org/10.1111/ajt.12526">http://dx.doi.org/10.1111/ajt.12526</a></td>
</tr>
<tr>
<td><strong>Human / Not Cited</strong></td>
<td>17-2799 was used in Flow cytometry/Cell sorting to provide mechanistic insights into human chimeric antigen receptor T-cell exhaustion in solid tumors. The Journal of clinical investigation (2016; 126: 3130) &quot;Human CAR T cells with cell-intrinsic PD-1 checkpoint blockade resist tumor-mediated inhibition.&quot; Author(s): Cherkassky L, Morello A, Villena-Vargas J, Feng Y, Dimitrov DS, Jones DR, Sadelain M, Adusumilli PS PubMed Article URL:<a href="http://dx.doi.org/10.1172/JCI83092">http://dx.doi.org/10.1172/JCI83092</a></td>
</tr>
<tr>
<td><strong>Human / Not Cited</strong></td>
<td>17-2799 was used in Flow cytometry/Cell sorting to investigate the presence of Tfh and Tfr cells in the blood of pSS patients and their signification of disease activity, glandular inflammation or autoantibody responses. Immune network (2019; 19: ) &quot;Circulating CCR7&lt;sup&gt;+&lt;/sup&gt;/lo&lt;sup&gt;-&lt;/sup&gt;/sup&gt;PD-1&lt;sup&gt;-&lt;/sup&gt;/hi&lt;sup&gt;-&lt;/sup&gt;/sup&gt; Follicular Helper T Cells Indicate Disease Activity and Glandular Inflammation in Patients with Primary Sjögren’s Syndrome.&quot; Author(s): Kim JW, Lee J, Hong SM, Lee J Cho ML, Park SH PubMed Article URL:<a href="http://dx.doi.org/10.4110/in.2019.19.e26">http://dx.doi.org/10.4110/in.2019.19.e26</a></td>
</tr>
</tbody>
</table>
"Targeted T cell receptor gene editing provides predictable T cell product function for immunotherapy."
PubMed Article URL: http://dx.doi.org/10.1016/j.jcmr.2021.100374

"Evidence of SARS-CoV-2 infection in postmortem lung, kidney, and liver samples, revealing cellular targets involved in COVID-19 pathogenesis."
PubMed Article URL: http://dx.doi.org/10.1007/s00705-023-05711-y

"HIV-1 Tat protein induces PD-L1 (B7-H1) expression on dendritic cells through tumor necrosis factor alpha- and toll-like receptor 4-mediated mechanisms."
Author(s): Filanes R, BenMohamed L, Leghmari K, Delobel P, Izopet J, Bahraoui E
PubMed Article URL: http://dx.doi.org/10.1128/JVI.00825-14

"Strength of PD-1 signaling differentially affects T-cell effector functions."
Author(s): Wei F, Zhong S, Ma Z, Kong H, Medvec A, Ahmed R, Freeman GJ, Krosgaard M, Riley JL
PubMed Article URL: http://dx.doi.org/10.1037/pnas.1305394110

"Bcl-2 Enhances Chimeric Antigen Receptor T Cell Persistence by Reducing Activation-Induced Apoptosis."
PubMed Article URL: http://dx.doi.org/10.3390/cancers13020197

"Comprehensive Cell Surface Antigen Analysis Identifies Transferrin Receptor Protein-1 (CD71) as a Negative Selection Marker for Human Neuronal Cells."
PubMed Article URL: http://dx.doi.org/10.1002/stem.3057

"Cancer-secreted exosomal miR-1468-5p promotes tumor immune escape via the immunosuppressive reprogramming of lymphatic vessels."


Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). Our claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.
17-2799 was used in Flow cytometry/Cell sorting to investigate the synergistic effects of hip fracture physical trauma and psychological depressive symptoms on the aged immune system.

"Depressive symptoms post hip fracture in older adults are associated with phenotypic and functional alterations in T cells."
Author(s): Duggal NA, Upton J, Phillips AC, Hampson P, Lord JM
PubMed Article URL: http://dx.doi.org/10.1186/s12979-014-0025-5

17-2799-42 was used in Flow Cytometry to identify a number of in vitro assays with response profiles that mimic features of dissociated cell populations from primary tumours, which represent disease-relevant functional assays for the screening of immune checkpoint inhibitors, which may support patient stratification of those likely to respond to immuno-oncology therapies.

Scientific reports (2021; 11:)
"Ex vivo modelling of PD-1/PD-L1 immune checkpoint blockade under acute, chronic, and exhaustion-like conditions of T-cell stimulation."
PubMed Article URL: http://dx.doi.org/10.1038/s41598-021-83612-3