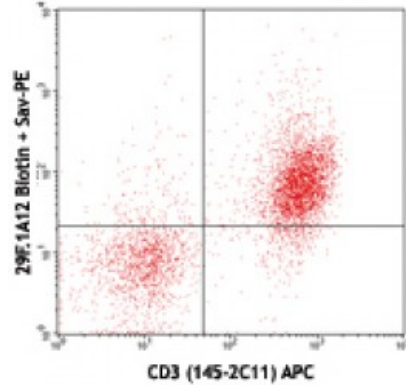


**Biotin anti-mouse CD279 (PD-1)**

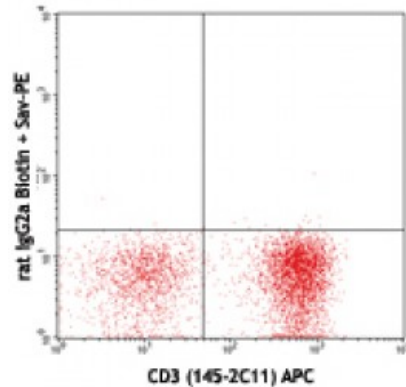
**Catalog # / Size:** 1276060 / 500 µg  
**Clone:** 29F.1A12  
**Isotype:** Rat IgG2a, κ  
**Immunogen:** PD-1 cDNA followed by PD-1-Ig fusion protein  
**Reactivity:** Mouse  
**Preparation:** The antibody was purified by affinity chromatography, and conjugated with biotin under optimal conditions. The solution is free of unconjugated biotin.  
**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.  
**Concentration:** 0.5



Con A-stimulated (3 days) C57BL/6 splenocytes stained with CD3 (145-2C11) APC and biotinylated anti-mouse PD-1 (clone 29F.1A12) followed by Sav-PE

**Applications:**

**Applications:** Flow Cytometry  
**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is ≤1.0 microg per million cells in 100 microL volume. It is recommended that the reagent be titrated for optimal performance for each application.  
**Application Notes:** Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen tissue<sup>3</sup> and *in vivo* blocking of PD-1 binding to its ligands<sup>2,3</sup>.



Con A-stimulated (3 days) C57BL/6 splenocytes stained with CD3 (145-2C11) APC and biotinylated rat IgG2a, κ isotype control, followed by Sav-PE

- Application References:**
1. Good-Jacobson KL, *et al.* 2010. *Nat. Immunol.* 11:535. (FC) [PubMed](#)
  2. Lázár-Molnár E, *et al.* 2008. *Proc. Natl. Acad. Sci. USA* 105:2658. (Block)
  3. Liang SC, *et al.* 2003. *Eur. J. Immunol.* 33:2706. (FC, IHC, Block)

**Description:** CD279, also known as programmed death-1 (PD-1), is a 50-55 kD glycoprotein belonging to the CD28 family of the Ig superfamily. PD-1 is expressed on activated splenic T and B cells and thymocytes. It is induced on activated myeloid cells as well. PD-1 is involved in lymphocyte clonal selection and peripheral tolerance through binding its ligands, B7-H1 (PD-L1) and B7-DC (PD-L2). It has been reported that PD-1 and PD-L1 interactions are critical to positive selection and play a role in shaping the T cell repertoire. PD-L1 negative costimulation is essential for prolonged survival of intratesticular islet allografts.

**Antigen** 1. Nishimura H, *et al.* 2001. *Science* 291:319

- References:**
2. Agata Y, *et al.* 1996. *Int. Immunol.* 8:765
  3. Liang SC, *et al.* 2003. *Eur. J. Immunol.* 33:2706
  4. Barber DL, *et al.* 2006. *Na*