Technical Data Sheet

PE Hamster Anti-Mouse CD279

Product Information

Material Number:	**551892**
Alternate Name:	PD-1
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	J43
Immunogen:	Syrian Hamster kidney cell line BKH transfected with Pdcd1 cDNA
Isotype:	Armenian Hamster IgG2, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The J43 antibody reacts with CD279 (PD-1), a 50-55-kDa glycoprotein encoded by the *Pdcd1* gene of the CD28 family of the Ig superfamily. The expression of Pdcd1 mRNA and PD-1 protein is tightly regulated. PD-1 is transiently expressed on CD4-CD8thymocytes, it is upregulated on some cell lines upon induction of apoptosis, it is induced on thymocytes and splenic T and B lymphocytes after stimulation through their antigen receptors, and it is induced on activated myeloid cells. In addition, *Pdcd1* mRNA is transiently expressed in developing B lymphocytes at the pro-B-cell stage. The presence of an ITIM (*I*mmunoreceptor *T*yrosine-based *I*nhibitory *M*otif) on PD-1's intracytoplasmic region and the development of splenomegaly and breakdown of peripheral tolerance in PD-1[-/-] mice suggest that PD-1 may be involved in the negative regulation of immune responses. The PD-1 ligands, B7-H1 (also known as PD-L1) and B7-DC (PD-L2), are members of the B7 family of the Ig superfamily. The J43 antibody blocks the binding of PD-1 to its two ligands.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.
Store undiluted at 4°C.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
550085	PE Hamster IgG2, κ Isotype Control	0.1 mg	B81-3

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Although hamster immunoglobulin isotypes have not been well defined, BD Biosciences Pharmingen has grouped Armenian and Syrian hamster IgG monoclonal antibodies according to their reactivity with a panel of mouse anti-hamster IgG mAbs. A table of the hamster IgG groups, Reactivity of Mouse Anti-Hamster Ig mAbs, may be viewed at http://www.bdbiosciences.com/pharmingen/hamster_chart_11x17.pdf.
4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Agata Y, Kawasaki A, Nishimura H, Ishida Y, Tsubata T, Yagita H, Honjo T. Expression of the PD-1 antigen on the surface of stimulated mouse T and B lymphocytes. *Int Immunol.* 1996 May; 8(5):765-772.(Immunogen)
Ansari MJ, Salama AD, Chitnis T, Smith RN, Yagita H, Akiba H, Yamazaki T, Azuma M, Iwai H, Khoury SJ, Auchincloss H Jr, Sayegh MH. The programmed death-1 (PD-1) pathway regulates autoimmune diabetes in nonobese diabetic (NOD) mice. *J Exp Med.* 2003 July; 198(1):63-69.(Biology)

BD Biosciences
bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

Carreno BM, Collins M. The B7 family of ligands and its receptors: New pathways for costimulation and inhibition of immune responses. *Annu Rev Immunol.* 2002; 20:29-53.(Biology)
Finger LR, Pu J, Wasserman R, Vibhakar R, Louie E, Hardy RR, Burrows PD, Billips LG. The human PD-1 gene: complete cDNA, genomic organization, and developmentally regulated expression in B cell progenitors. *Gene.* 1997 September; 197(1-2):177-187.(Biology)
Nishimura H, Agata Y, Kawasaki A, Sato M, Imamura S, Minato N, Yagita H, Nakano T, Honjo T. Developmentally regulated expression of the PD-1 protein on the surface of double-negative (CD4-CD8-) thymocytes. *Int Immunol.* 1996 May; 8(5):773-780.(Biology)
Nishimura H, Minato N, Nakano T, Honjo T. Immunological studies on PD-1 deficient mice: implication of PD-1 as a negative regulator for B cell responses. *Int Immunol.* 1998; 10(10):1563-1572.(Biology)
The Jackson Laboratory. Mouse Genome Database (MGD), Mouse Genome Informatics Web Site. Available: http://www.informatics.jax.org September, 2003. (Biology)