Leinco Technologies, Inc.
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Anti-Mouse CD317 (Clone 927)
Purified *in vivo* GOLD™ Functional Grade
Monoclonal Antibody

Product Information
Product No.: C791
Clone: 927
Isotype: Rat IgG2b κ
Storage: 2-8°C

Product Description
Specificity:
Clone 927 activity is directed against murine CD317 (BST2; PDCA-1).
Antigen Distribution:
Murine CD317 is expressed by IFN-producing cells in naïve mouse spleen and by a wide variety of cell lines including T cells, mast cells, B cells, fibroblast cells, and pluripotent embryonal carcinoma cells. Additionally, mice challenged by influenza or other stimuli (CpG, LPS, murine CMV, poly(I:C), and imiquimod) express CD317 in DC and other myeloid cells as well as T cells, B cells, NKT cells, and some NK cells. CD317 is also expressed on $CD138^+$ plasma cells in naïve mice and is upregulated by viral stimulation.
Background:
Monoclonal antibody (mAb) 927 recognizes CD317 (BST2; PDCA-1)[1]. CD317 is a specific marker of IFN-producing cells (IPCs aka plasmacytoid dendritic cells, DC) under naïve conditions. IPCs are early responders to viral infection and direct both the innate and adaptive immune response[2,3]. CD317 also promotes secretion in IPCs, presumably by sorting proteins between the Golgi apparatus and plasma membrane[1]. CD317 is located on the cell surface as well as intracellularly in the Golgi apparatus and is associated with lipid rafts.
CD317 is primarily present on the cell surfaces of murine IPCs in naïve mice, where its expression on resting and activated IPCs is independent of IFNs[1]. However, when stimulated with type I IFNs and IFN-γ, cell surface expression of CD317 is induced on most cell types. When administered *in vivo*, treatment with mAb 927 abrogates IFN-α secretion by IPCs in response to CpG as well as depletes IPCs ~ 95%, significantly reducing plasma cells.
The 927 clone was generated to overcome barriers to the identification and study of IPCs caused by their scarcity in blood and tissues as well as their complex surface phenotype[1]. mAb 927 was generated by immunizing Wistar/CRL rats with bone marrow-derived IPCs with either CpG oligodeoxynucleotide 1826 or heat-killed *Mycobacteria tuberculosis* as adjuvant. Hybridoma lines were created by fusing popliteal lymph nodes with SP2/0 myeloma cells. Supernatants were screened for lines that recognize $CD11c^+B220^+Ly\text{-}6c^+CD11b^-$splenocytes. mAb 927 is rat IgG2b isotype.
Known Reactivity Species:
Mouse
Format:
in vivo GOLD™, Purified in vivo Functional Grade
Immunogen:
Mouse plasmacytoid dendritic cells
Formulation
This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.
Purity
≥95% monomer by analytical SEC, >95% by SDS Page

Endotoxin
<0.1 EU/µg as determined by the LAL method

Storage and Stability
Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C. **Avoid Repeated Freeze Thaw Cycles.**

Product Preparation
Functional grade preclinical antibodies are manufactured in an animal free facility using *in vitro* cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Applications
Applications and Recommended Usage (Quality Tested By Leinco):
FC

Other Applications Reported in Literature:
***In vivo* depletion**
immunofluorescence microscopy
functional assay

Country of Origin
USA

References
1. Blasius AL, Giurisato E, Cella M, et al. J Immunol. 177(5):3260-3265. 2006.
2. Colonna M, Trinchieri G, Liu YJ. Nat Immunol. 5(12):1219-1226. 2004.
3. Liu YJ. Annu Rev Immunol. 23:275-306. 2005.
4. Yun TJ, Lee JS, Machmach K, et al. Cell Metab. 23(5):852-866. 2016.

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