Technical Data Sheet

PE Rat Anti-Mouse P2X7

Product Information

Material Number: 565345
Alternate Name: P2X7; P2X7 purinoceptor; P2RX7; P2X7R; P2Z receptor; ATP receptor
Size: 50 µg
Concentration: 0.2 mg/ml
Clone: 1F11
Immunogen: Mouse Mast Cells
Isotype: Rat IgG2b, κ
Reactivity: QC Testing: Mouse
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 1F11 monoclonal antibody specifically binds to the P2X7 receptor. P2X7 is also known as the P2X7 Receptor (P2X7R), Purinergic receptor P2X ligand-gated ion channel 7 (P2RX7), P2X7 purinoceptor, P2Z receptor, or ATP receptor. P2X7 is differentially expressed on a wide variety of cell types including T cells, B cells, macrophages, dendritic cells, mast cells, neurons, microglia, and astrocytes. Functional P2X receptors exist as trimers. Each P2X7 monomer contains intracellular N and C termini, two transmembrane domains, and a large extracellular loop. When present at relatively high levels, extracellular adenosine 5’-triphosphate (ATP) binds to the P2X7 receptor and opens a channel for extracellular cation (eg, Na+, K+, Ca++) influx into cells. The P2X7 receptor-mediated cation influx can cause membrane depolarization and Ca++ mediated signaling cascades that trigger cellular responses, eg, the production and/or release of proinflammatory mediators (eg, IL-1β or IL-18) by cells of the immune system. P2X7 is also implicated in mediating ATP-induced apoptosis of cells. The 1F11 antibody reportedly blocks ATP-mediated cellular activation through P2X7R.

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

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.

Application Notes

Application

Flow cytometry Routinely Tested

Multicolor flow cytometric analysis of P2X7 receptor expression on mouse cells.

Left Panel: C57BL/6 mouse peritoneal cells were stained with BD Horizon™ BV421 Rat Anti-Mouse F4/80 (Cat. No. 565411) and APC Rat Anti-Mouse CD117 (Cat. No. 553356) antibodies, and either PE Rat IgG2b, κ Isotype Control (Cat. No. 556925; dashed line histogram) or PE Rat Anti-Mouse P2X7 antibody (Cat. No. 565345; solid line histogram). The fluorescence histogram showing P2X7 expression (or Ig Isotype control staining) was derived from F4/80- CD117+ gated events with the forward and side light-scatter characteristics of viable cells.

Right Panel: Mouse splenocytes were stained with BD Horizon™ BV421 Rat Anti-Mouse CD45R/B220 (Cat. No. 562922; Left Plots) and FITC Rat Anti-Mouse CD3 Molecular Complex (Cat. No. 555274/561798; Right Plots) antibodies, and either PE Rat IgG2b, κ Isotype Control or PE Rat Anti-Mouse P2X7 antibody as indicated. Two-color flow cytometric dot plots showing the correlated expression of CD45R/B220 or CD3 versus P2X7 (or Ig Isotype control staining) were derived from gated events with the forward and side light- scatter characteristics of viable leucocytes.

Flow cytometric analysis was performed using a BD LSRFortessa™ Cell Analyzer System.

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565345 Rev. 1
## Suggested Companion Products

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## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
3. 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.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. An isotype control should be used at the same concentration as the antibody of interest.

## References