Technical Data Sheet

PE Mouse Anti-IRF4

Product Information

Material Number: 566649
Alternate Name: IRF4; IRF-4; interferon regulatory factor 4; LSIRF; MUM1; NF-EMS; SHEP8
Size: 25 µg
Concentration: 0.2 mg/ml
Clone: Q9-343
Immunogen: Mouse IRF4 Recombinant Protein
Isotype: Mouse IgG1, κ
Reactivity: QC Testing: Human Test in Development: Mouse

Storage Buffer: Aqueous buffered solution containing protein stabilizer and ≤0.09% sodium azide.

Description

The Q9-343 monoclonal antibody specifically recognizes human and mouse Interferon Regulatory Factor 4 (IRF4 or IRF-4) which is also known as Lymphocyte specific interferon regulatory factor (LSIRF), Multiple myeloma oncogene 1 (MUM1), or PU.1 interaction partner (PIP). IRF4 belongs to the Interferon Regulatory Factor (IRF) family of transcription factors that includes nine members, IRF1-9. IRF4 has a conserved N-terminal DNA binding domain with a unique tryptophan pentad repeat. Its C-terminal regulatory domain regulates IRF4 activity and mediates interactions with other IRF proteins, transcription factors and co-factors. IRF4 plays essential roles in the regulation of innate and adaptive immune responses. IRF4 is widely expressed in leukocytes and is essential for the development, activation, differentiation, and/or apoptosis of T helper (Th) cell subsets including Th2, Th9, Th17, T follicular helper (Tfh) cells, or T (Treg) cells. IRF4 is involved in the development or differentiation of CD8+ effector and memory cells, B cells and plasma cells, as well as different dendritic cell (DC) subsets and M2 macrophages. IRF4 is also expressed by adipocytes and melanocytes. Cellular IRF4 expression is primarily upregulated by antigen-receptor engagement, or by stimulation with lipopolysaccharide (LPS), CD40, or IL-4, rather than by interferons. TLR4 has been implicated in suppressing or promoting oncogenesis and autoimmunity.

Flow cytometric analysis of IRF4 expression in human and mouse leucocytes. Human peripheral blood mononuclear cells (PBMC) were not stimulated (Top Left Plot) or stimulated (Top Right Plot) with phytohemagglutinin (PHA; 3 days). C57BL/6 mouse splenic B cells were not stimulated (Bottom Left Plot) or stimulated (Bottom Right Plot) with lipopolysaccharide (LPS; 2 days). PBMC were then fixed with BD Cytofix™ Fixation Buffer (Cat. No. 554655) and permeabilized and stained in BD Perm/Wash™ Buffer (Cat. No. 554723) with either PE Mouse IgG1, κ Isotype Control (Cat. No. 554680; dashed line histograms) or PE Mouse Anti-IRF4 antibody (Cat. No. 566646/566649; solid line histograms) at 0.25 µg/test. Mouse cells were similarly fixed, permeabilized, and stained using the BD Pharmingen™ Transcription Factor Buffer Set (Cat. No. 562574/562725). Histograms showing IRF4 expression (or Ig Isotype control staining) were derived from gated events with the forward and side light-scatter characteristics of intact leucocyte populations. Flow cytometric analysis was performed using a BD FACSCanto™ II System. Data shown on this Technical Data Sheet are not lot specific.
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
Intracellular staining (flow cytometry) Routinely Tested

Suggested Companion Products

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<th>Name</th>
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Product Notices
1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
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. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.

References
Zhao GN, Jiang DS, Li H. Interferon regulatory factors: at the crossroads of immunity, metabolism, and disease. Biochim Biophys Acta. 2015; 1852(2):365-78. (Biology)