Technical Data Sheet

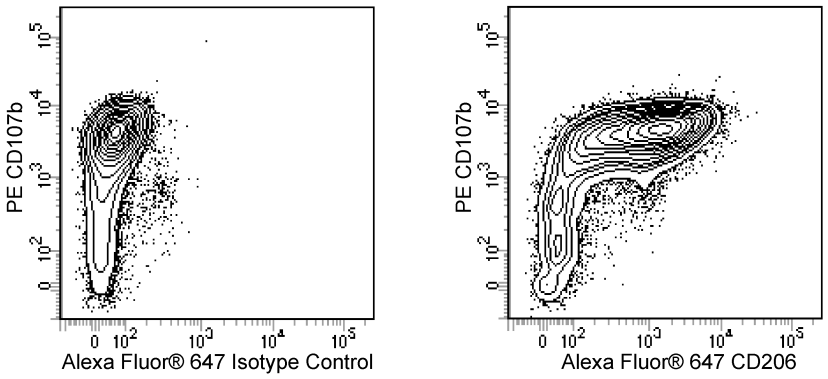
Alexa Fluor® 647 Rat Anti-Mouse CD206

Product Information

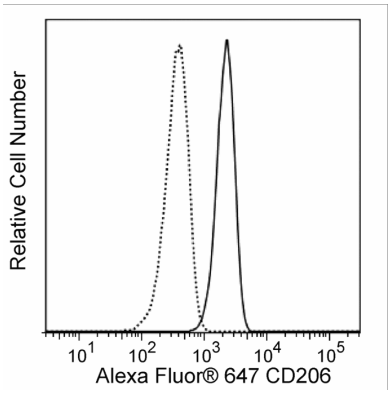
Material Number:	**565250**
Alternate Name:	MMR; MR; Macrophage mannose receptor 1; Mrc1; Mannose receptor, C type 1
Size:	25 µg
Concentration:	0.2 mg/ml
Clone:	MR5D3
Immunogen:	Recombinant Mouse CD206 Carbohydrate recognition domains 4-7/Fc Fusion Protein
Isotype:	Rat (F344) IgG2a
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The MR5D3 monoclonal antibody specifically binds to CD206 which is also known as the Macrophage mannose receptor (MMR, MR) or Mannose receptor, C type 1 (Mrc1). CD206 is a type I transmembrane glycoprotein of approximately 175 kDa that belongs to the C-type lectin superfamily. It is expressed at the cell surface and intracellularly by macrophages, Langerhans cells, dendritic cells, and endothelial cells within hepatic and lymphoid tissues. This pattern recognition receptor binds to endogenous and microbial glycoconjugates containing mannose, fucose, or N-acetylglucosamine through its C-type lectin-like carbohydrate recognition domains (CRD). CD206 also contains a cysteine-rich domain that enables binding to sulfated carbohydrate antigens. This receptor enables macrophages and other specialized cells to maintain tissue homeostasis as well as to internalize microbes or their components by phagocytosis or endocytosis. CD206 thus plays important roles in mediating innate immunity, e.g., enabling phagocytosis, as well as in processing and presenting antigens for the generation and expression of adaptive immunity. Moreover, CD206 has been associated with leucocyte homing and cancer cell metastasis.



Two-color flow cytometric analysis of CD206 expression on mouse peritoneal exudate cells. *Thioglycollate-elicited BALB/c mouse peritoneal exudate cells (PEC) were fixed and permeabilized using the BD Pharmingen™ Transcription Factor Buffer Set (Cat. No. 562574/562725). The leucocytes were then stained with PE Rat Anti-Mouse CD107b (Mac-3) antibody (Cat. No. 553324) and either Alexa Fluor® 647 Rat IgG2a, κ Isotype Control (Cat. No. 565250; Left Panel) or Alexa Fluor® 647 Rat Anti-Mouse CD206 antibody (Cat. No. 565250; Right Panel). Two-color flow cytometric contour plots showing the correlated expression of CD206 (or Ig Isotype control staining) versus CD107b were derived from gated events with the forward and side-light scattering characteristics of intact PEC. Flow cytometric analysis was performed using a BD FACSCanto™ II Flow Cytometer System.*



Flow cytometric analysis of CD206 expression by J774A cells. *Cells from the J774A (Mouse macrophage, ATCC TIB-67) cell line were similarly fixed and permeabilized, stained with either Alexa Fluor® 647 Rat IgG2a, κ Isotype Control (dashed line histogram) or Alexa Fluor® 647 Rat Anti-Mouse CD206 antibody (solid line histogram), and analzyed by flow cytometry. The fluorescence histogram showing CD206 expression (or Ig Isotype control staining) was derived from gated events with the forward and side light-scatter characteristics of intact J774A cells.*

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 to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

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Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
557690	Alexa Fluor® 647 Rat IgG2a, κ Isotype Control	0.1 mg	R35-95
553324	PE Rat Anti-Mouse CD107b	0.2 mg	M3/84
562574	Transcription Factor Buffer Set	100 Tests	(none)
562725	Transcription Factor Buffer Set	25 Tests	(none)

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. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
4. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
5. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
6. 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.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. An isotype control should be used at the same concentration as the antibody of interest.

References

Akbarshahi H, Menzel M, Posaric Bauden M, Rosendahl A, Andersson R. Enrichment of murine CD68+ CCR2+ and CD68+ CD206+ lung macrophages in acute pancreatitis-associated acute lung injury. *PLoS ONE.* 2012; 7(10):e42654. (Biology)

Burgdorf S, Lukacs-Kornek V, Kurts C. The mannose receptor mediates uptake of soluble but not of cell-associated antigen for cross-presentation. *J Immunol.* 2006; 176(11):6770-6776. (Biology)

Marttila-Ichihara F, Turja R, Miiluniemi M, Karikoski M, Maksimow M, Niemela J, Martinez-Pomares L, Salmi M, Jalkanen S. Macrophage mannose receptor on lymphatics controls cell trafficking. *Blood.* 2008; 112(1):64-72. (Clone-specific: Immunofluorescence, Immunohistochemistry)

McKenzie EJ, Taylor PR, Stillion RJ, Lucas AD, Harris J, Gordon S, Martinez-Pomares L.. *J Immunol.* 2007; 178(8):4975-4983. (Clone-specific: Flow cytometry)

Zamze S, Martinez-Pomares L, Jones H, Taylor PR, Stillion RJ, Gordon S, Wong SY. Recognition of bacterial capsular polysaccharides and lipopolysaccharides by the macrophage mannose receptor. *J Biol Chem.* 2002; 277(44):41613-41623. (Immunogen: Dot Blot, ELISA, Flow cytometry, Immunoaffinity chromatography, Immunohistochemistry, Immunoprecipitation)

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