

## Technical Data Sheet

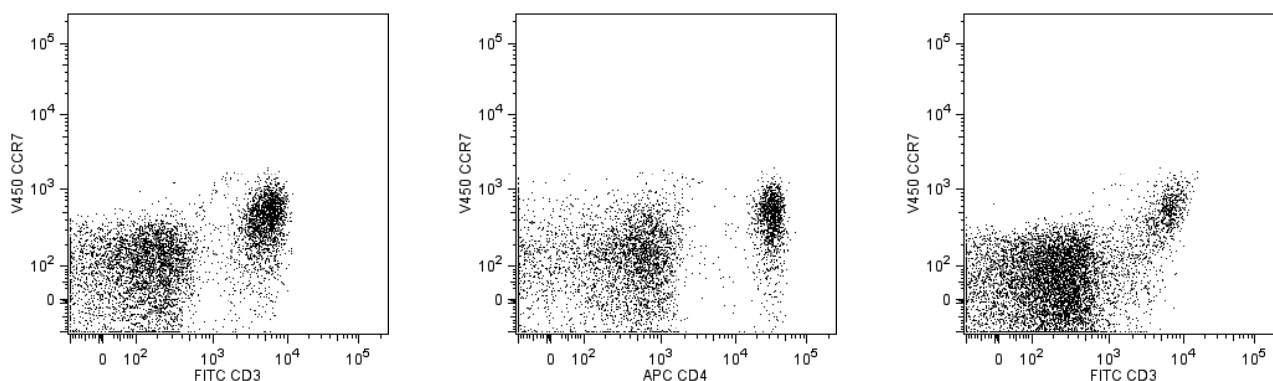
**V450 Rat Anti-Mouse CD197 (CCR7)****Product Information**

<b>Material Number:</b>	<b>560805</b>
<b>Alternate Name:</b>	CD197; C-C chemokine receptor type 7; EBI1; Ebi1h; CMKBR7
<b>Size:</b>	0.1 mg
<b>Concentration:</b>	0.2 mg/ml
<b>Clone:</b>	4B12
<b>Isotype:</b>	Rat (LOU) IgG2a
<b>Reactivity:</b>	QC Tested: Mouse
<b>Storage Buffer:</b>	Aqueous buffered solution containing protein stabilizer and ≤0.09% sodium azide.

**Description**

The monoclonal antibody 4B12/CCR7 reacts with the mouse C-C chemokine receptor type 7 (CCR7). CCR7 is also known as CD197 (previously known as EBI1, Ebi1h and CMKBR7) and plays a central role in mediating homeostatic B and T lymphocyte trafficking to and within secondary lymphoid tissues. CD197 is a seven-transmembrane, G-protein-coupled, 43 kDa glycoprotein receptor that is specific for the CC chemokines, MIP3B/Exodus-3/ELC/CKb11/Scya19/CCL19 and 6Ckine/Exodus-2/SLC/TCA4/CKb9/Scya21/CCL21. The mouse *Ccr7* gene is located on chromosome 11. CD197 (CCR7) is differentially expressed by subsets of thymocytes. Positive CD197 expression appears to be involved in the cortex-to-medulla migration of positively-selected thymocytes wherein they complete functional maturation including the establishment of central tolerance. It is most highly expressed by some mature medullary single-positive thymocytes. CD197 is also expressed by subsets of mature peripheral CD4+ and CD8+ T lymphocytes including naïve and regulatory T cells and central memory T cells. In addition, it is differentially expressed by subsets of B lymphocytes, dendritic cells, and Langerhans cells. CD197 serves as a homing receptor that helps guide these various cell types to and within lymphoid tissues. In this way, CCR7 supports protective immunity while safeguarding self tolerance. Reportedly, the 4B12/CCR7 antibody is not agonistic, is not blocked by CCL21 nor by physiologic levels of CCL19, nor does the antibody block the binding of CCL21 to CCR7. The immunogen used to generate the 4B12 hybridoma was a mouse CCR7-transfected rat cell line.

The antibody is conjugated to BD Horizon™ V450, which has been developed for use in multicolor flow cytometry experiments and is available exclusively from BD Biosciences. It is excited by the Violet laser Ex max of 406 nm and has an Em Max at 450 nm. Conjugates with BD Horizon™ V450 can be used in place of Pacific Blue™ conjugates.



**Flow cytometric analysis of CD197 (CCR7) on mouse splenocytes and thymocytes.** Mouse splenocytes (left and center panels) and thymocytes (right panel) were stained with BD Horizon™ V450 Rat anti-Mouse CCR7, FITC Hamster anti-Mouse CD3e (Cat. No.553061) and APC Rat anti-Mouse CD4 (Cat. No. 553051) antibodies. Two-color flow cytometric dot plots showing the correlated expression patterns of CD4 or CD3 versus CCR7 (CD197) were derived from gated events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometry was performed using a BD LSR™ II flow cytometer system.

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## Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with BD Horizon™ V450 under optimum conditions, and unreacted BD Horizon™ V450 was removed.

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

## Application Notes

### Application

Flow cytometry

Routinely Tested

## Suggested Companion Products

Catalog Number	Name	Size	Clone
553061	FITC Hamster Anti-Mouse CD3e	0.1 mg	145-2C11
553051	APC Rat Anti-Mouse CD4	0.1 mg	RM4-5
560377	V450 Rat IgG2a, κ Isotype Control	0.1 mg	R35-95

## 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](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
4. BD Horizon™ V450 has a maximum absorption of 406 nm and maximum emission of 450 nm. Before staining with this reagent, please confirm that your flow cytometer is capable of exciting the fluorochrome and discriminating the resulting fluorescence.
5. Pacific Blue™ is a 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.

## References

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Forster R, Davalos-Misslitz AC, Rot A. CCR7 and its ligands: balancing immunity and tolerance. *Nat Rev Immunol.* 2008; 8(5):362-371. (Biology)

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