

Analyte Specific Reagent.

Analytical and performance characteristics are not established.

SPECIFICITY

Clone G043H7 recognizes the C-C chemokine receptor type 7 (CCR7), also known as CD197, on T, B, NK, and dendritic cells.

CCR7 is G protein-coupled receptors (GPCR) with seven transmembrane receptors. It binds CCL19 and CCL21. CCR7 and its ligands link innate and adaptive immunity through their effects on interactions between T cells and dendritic cells. The chemokine receptor CCR7 plays a pivotal role in the homing of naïve T cells and regulatory T cells to secondary lymphoid organs, and the migration of dendritic cells into afferent lymphatic vessels (1, 2). Naïve T cells enter the lymph node through high endothelial venules, which express CCL21. Dendritic cells and macrophages enter the lymph node through afferent lymphatics. The encounter of T cells and dendritic cells in the T cell zone is CCR7-dependent (3). In addition, during immunological surveillance, B lymphocytes recirculate between B-cell-rich compartments (follicles or B zones) in secondary lymphoid organs, surveying for antigen. After antigen binding, B cells move to the boundary of B and T zones to interact with T-helper cells; this B cell migration is directed by CCR7 and its ligands. CCR7-positive cancer cell expression has been associated with lymph node metastasis.

By bringing together T cells, B cells, and DCs to form functional microenvironments in secondary lymphoid organs, CCR7 has been identified as a major homing receptor and important regulator for initiating an antigen-specific immune response. (4, 5)

It has been assigned to the CD197 cluster of differentiation during the 8th HLDA Workshop on Human Leukocyte Differentiation Antigens, held in Adelaide, Australia, in 2004 (6).

REAGENT

IOTest CD197 (CCR7)-PE
Conjugated Antibody
PN B30632 - 1 mL - Liquid

Clone	G043H7
Isotype	IgG2a, Mouse
Immunogen	CCR7-transfected cells
Hybridoma	ND
Source	Purified
Purification	Affinity chromatography
Conjugation	R Phycoerythrin (PE)
Molar Ratio	PE / Ig : 0.5 - 1.5
Fluorescence	Excites at 488 nm Emits at 575 nm

REAGENT CONTENTS

This antibody is provided in phosphate-buffered saline, containing 0.1% sodium azide and 2 mg/mL bovine serum albumin. Concentration: See lot specific Certificate of Analysis at www.beckmancoulter.com.

STATEMENTS OF WARNING

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Specimens, samples and all material coming in contact with them should be considered potentially infectious and disposed of with proper precautions.
3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
4. Do not use antibody beyond the expiration date on the label.
5. Do not expose reagents to strong light during storage or incubation.
6. Avoid microbial contamination of reagents or incorrect results might occur.
7. Use good laboratory practices when handling this reagent.
8. Any change in the physical appearance of the reagents may indicate deterioration and the reagent should not be used.

STORAGE AND HANDLING CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

SELECTED RESEARCH REFERENCES

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3. Ohl, L., Mohaupt, M., Czeloth, N., Hintzen, G., Kiafard, Z., Zwirner, J., Blankenstein, T., Henning, G., and Forster, R., CCR7 Governs Skin Dendritic Cell Migration under Inflammatory and Steady-State Conditions, *Immunity*, 2004, Vol. 21, 279–288.
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5. Kurobe, H., Liu, C., Ueno, T., Saito, F., Ohgashi, I., Seach, N., Arakaki, R., Hayashi, Y., Kitagawa, T., Lipp, M., Boyd, R., and Takahama, Y., CCR7-Dependent Cortex-to-Medulla Migration of Positively Selected Thymocytes Is Essential for Establishing Central Tolerance, *Immunity*, 2006, 24, 165–177.
6. Zola, H., Swart, B., Nicholson, I., Aasted, B., Bensussan, A., Boumsell, L., Buckley, C., Clark, G., Drbal, K., Engel, P., Hart, D., Horejsí, V., Isacke, C., Macardle, P., Malavasi, F., Mason, D., Olive, D., Saalmueller, A., Schlossman, SF., Schwartz-Albiez, R., Simmons, P., Tedder, TF., Uguccioni, M., Warren, H., "CD molecules 2005: human cell differentiation molecules., 2005, *Blood*, 1, 106, 9, 3123-3126.

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Printed in France.
Made in France.

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