Alexa Fluor® 647 anti-mouse/human CD44 Antibody

Catalog# / Size	103017 / 25 µg 103018 / 100 µg
Clone	IM7
Regulatory Status	RUO
Other Names	Hermes, Pgp-1, H-CAM, HUTCH-1, ECMR III, gp85, Ly-24
Isotype	Rat IgG2b, κ
Description	CD44 is a 80-95 kD glycoprotein also known as Hermes, Pgp1, H-CAM, or HUTCH. It is expressed on all leukocytes, endothelial cells, hepatocytes, and mesenchymal cells. As B and T cells become activated or progress to the memory stage, CD44 expression increases from low or mid levels to high levels. Thus, CD44 has been reported to be a valuable marker for memory cell subsets. High CD44 expression on Treg cells has been associated with potent suppressive function via high production of IL-10. CD44 is an adhesion molecule involved in leukocyte attachment to and rolling on endothelial cells, homing to peripheral lymphoid organs and to the sites of inflammation, and leukocyte aggregation.

Product Details

Verified Reactivity	Mouse, Human
Reported Reactivity	Chimpanzee, Baboon, Cynomolgus, Rhesus, Squirrel Monkey, Horse, Cow, Pig, Dog, Cat
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Dexamethasone-induced myeloid leukemia M1 cells
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. **Do not freeze.**
Application	FC - *Quality tested* ICC - *Verified* SB - *Reported in the literature, not verified in house*
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is ≤ 0.25 µg per 10^6 cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for other applications. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633nm / 635nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Red Laser (633 nm)
Application Notes	Clone IM7 has been reported to recognize an epitope common to alloantigens and all isoforms of CD44[17,18] that is located between amino acids 145 and 186[20]. This clone has been verified for immunocytochemistry (ICC) and frozen immunohistochemistry (IHC-F). Additional reported applications (for the relevant formats) include: immunohistochemistry of acetone-fixed frozen sections and formalin-fixed paraffin-embedded sections[6,7], complement-mediated cytotoxicity[1], immunoprecipitation[1,3], *in vivo* inhibition of DTH[4,5], and spatial biology (IBEX)[23,24]. The Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for

functional assays (Cat. No. 103046, 103065 - 103069).

Cross-reactivity to ferret has been reported by a collaborator, but not verified in house.

Additional Product Notes

Iterative Bleaching Extended multi-pleXity (IBEX) is a fluorescent imaging technique capable of highly-multiplexed spatial analysis. The method relies on cyclical bleaching of panels of fluorescent antibodies in order to image and analyze many markers over multiple cycles of staining, imaging, and, bleaching. It is a community-developed open-access method developed by the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).

Application References

(PubMed link indicates BioLegend citation)

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2. Katoh S, *et al.* 1994. *J. Immunol.* 153:3440. (ELISA)
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Product Citations

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RRID

AB_493680 (BioLegend Cat. No. 103017)
AB_493681 (BioLegend Cat. No. 103018)

Antigen Details

Structure

Variable splicing of CD44 gene generates many CD44 isoforms, 80-95 kD

Distribution

All leukocytes, epithelial cells, endothelial cells, hepatocytes, mesenchymal cells

Function

Leukocyte attachment and rolling on endothelial cells, stromal cells and ECM

Ligand/Receptor

Hyaluronan, MIP-1β, fibronectin, collagen

Cell Type

B cells, Endothelial cells, Epithelial cells, Leukocytes, Mesenchymal cells, Mesenchymal Stem Cells, Tregs

Biology Area

Cell Adhesion, Cell Biology, Immunology, Stem Cells

Molecular Family

Adhesion Molecules, CD Molecules

Antigen References

1. Barclay AN, *et al.* 1997. The Leukocyte Antigen FactsBook Academic Press.
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Gene ID 12505

960

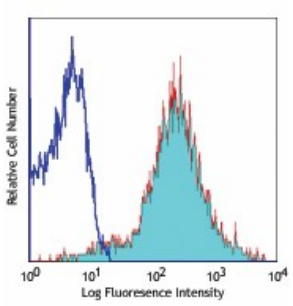
Related Protocols

Cell Surface Flow Cytometry Staining Protocol

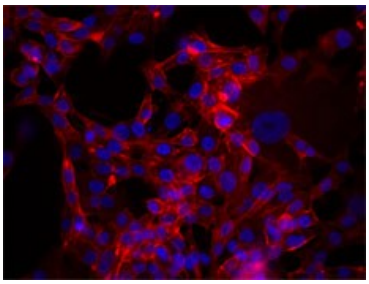
Other Formats

APC anti-mouse/human CD44, Biotin anti-mouse/human CD44, FITC anti-mouse/human CD44, PE/Cyanine5 anti-mouse/human CD44, Purified anti-mouse/human CD44, Brilliant Violet 605™ anti-mouse/human CD44, PE anti-mouse/human CD44, Alexa Fluor® 488 anti-mouse/human CD44, Alexa Fluor® 647 anti-mouse/human CD44, Pacific Blue™ anti-mouse/human CD44, Alexa Fluor® 700 anti-mouse/human CD44, PE/Cyanine7 anti-mouse/human CD44, APC/Cyanine7 anti-mouse/human CD44, PerCP/Cyanine5.5 anti-mouse/human CD44, PerCP anti-mouse/human CD44, Brilliant Violet 421™ anti-mouse/human CD44, Brilliant Violet 570™ anti-mouse/human CD44, Brilliant Violet 785™ anti-mouse/human CD44, Brilliant Violet 510™ anti-mouse/human CD44, Ultra-LEAF™ Purified anti-mouse/human CD44, Brilliant Violet 650™ anti-mouse/human CD44, Purified anti-mouse/human CD44 (Maxpar® Ready), Alexa Fluor® 594 anti-mouse/human CD44, PE/Dazzle™ 594 anti-mouse/human CD44, Brilliant Violet 711™ anti-mouse/human CD44, APC/Fire™ 750 anti-mouse/human CD44, TotalSeq™-A0073 anti-mouse/human CD44, TotalSeq™-C0073 anti-mouse/human CD44, TotalSeq™-B0073 anti-mouse/human CD44, Spark YG™ 570 anti-mouse/human CD44, Spark YG™ 593 anti-mouse/human CD44, TotalSeq™-D0073 anti-mouse/human CD44

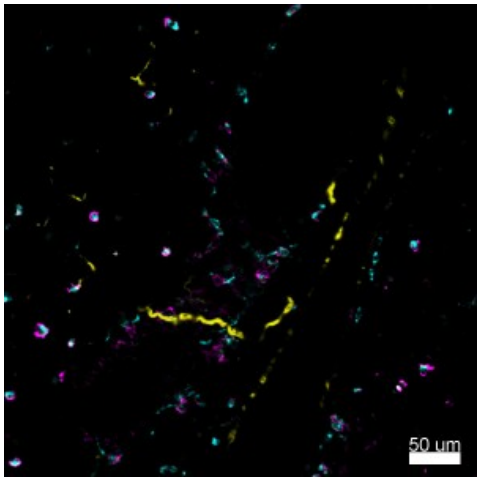
Product Data



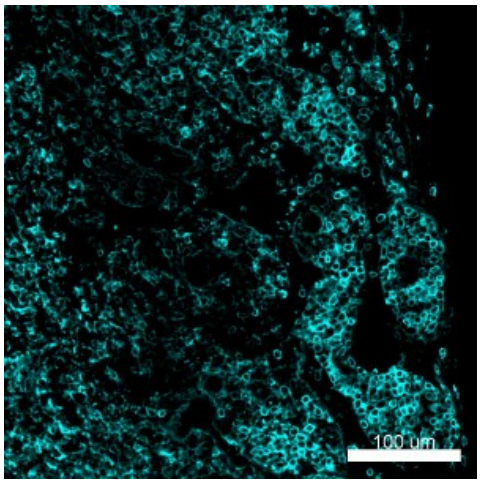
C57BL/6 mouse splenocytes stained with IM7 Alexa Fluor® 647



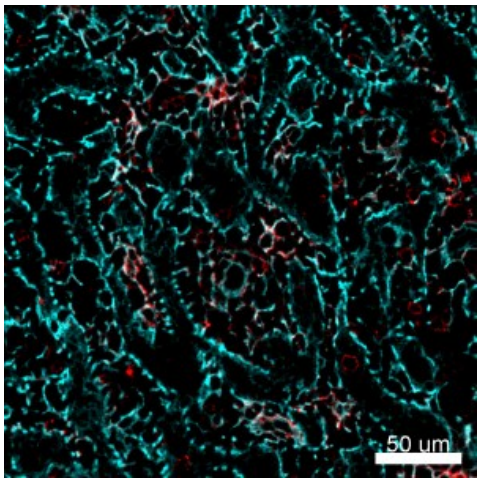
MDA-MB231 breast cancer cell line was stained with 5 µg/mL anti-human CD44 Alexa Fluor® 647 and nuclear counterstained with DAPI. Images were acquired with a TE300 fluorescence microscope with a 20x objective. Data provided by: Er Liu and John Nolan, La Jolla Bioengineering Institute



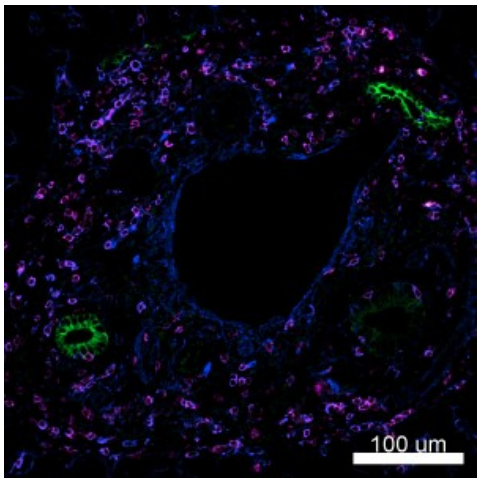
Confocal image of C57BL/6 mouse lung sample acquired using the IBEX method of highly multiplexed antibody-based imaging: β-tubulin 3 (yellow) in Cycle 2, CD68 (cyan) in Cycle 2, and CD44 (magenta) in Cycle 3. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).



Mice were injected subcutaneously with sheep red blood cells in a volume of 25 µl per site on days 0 and 4 and harvested on day 11. Confocal image of C57BL/6 mouse lymph node acquired using the IBEX method of highly multiplexed antibody-based imaging: CD44 (cyan) in Cycle 9. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).



Confocal image of human spleen sample acquired using the IBEX method of highly multiplexed antibody-based imaging: CD49a (cyan) in Cycle 2 and CD44 (red) in Cycle 4. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).



Confocal image of human liver sample acquired using the IBEX method of highly multiplexed antibody-based imaging: Cytokeratin 7 (green) in Cycle 1, CD44 (blue) in Cycle 4, and CD45 (magenta) in Cycle 4. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).

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