

Alexa Fluor® 647 anti-human CD138 (Syndecan-1) Antibody

Catalog# / Size	356523 / 25 tests 356524 / 100 tests
Clone	MI15
Regulatory Status	RUO
Workshop	HCDM listed
Other Names	B-B4
Isotype	Mouse IgG1, κ
Description	CD138, a member of the syndecan protein family, is a type I integral membrane heparin sulfate proteoglycan also known as Syndecan-1. Syndecan-1 participates in cell proliferation, cell migration, and cell-matrix adhesion via interaction with collagen, fibronectin, and other soluble molecules (such as FGF-basic). It is expressed on normal and malignant human plasma cells, pre-B cells, epithelial cells, and endothelial cells, but not on mature circulating B-lymphocytes. It is also expressed on some non-hematopoietic cells, including embryonic mesenchymal cells, vascular smooth muscle cells, endothelial cells, and neural cells.

Product Details

Verified Reactivity	Human
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	A mixture of U266 and XG-1 human myeloma cell lines.
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
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 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 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633 nm / 635 nm. 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	The epitope recognized by MI15 is found within the ectodomain of the CD138 core protein. It has been reported that MI15 blocks the binding of clone B-B4 but not clone DL-101 by flow cytometric analysis. Clones DL-101 and MI15 exhibit differential staining patterns on <i>in vitro</i> generated plasma cells and some CD138 ⁺ cell lines. ⁴ Additional reported applications for the relevant formats include: immunofluorescent staining ¹ , Western blotting ² , immunohistochemical staining of formalin-fixed paraffin-embedded frozen tissue sections ³ , and spatial biology (IBEX) ^{5,6} .

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)

1. Costes V, *et al.* 1999. *Hum. Pathol.* 30:1405. (IF)
2. Gattei V, *et al.* 1999. *Br. J. Haematol.* 104:152. (WB)
3. Bologna-Molina R, *et al.* 2008. *Oral Oncol.* 44:805. (IHC)
4. Itoua MR, *et al.* 2014. *Biomed. Res. Int.* 2014:536482.
5. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci USA.* 117:33455-33465. (SB) [PubMed](#)
6. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

Product Citations

1. Yang Y, *et al.* 2022. *Nat Commun.* 13:5469. [PubMed](#)

RRID

AB_2564250 (BioLegend Cat. No. 356523)
AB_2564251 (BioLegend Cat. No. 356524)

Antigen Details

Structure	100-200 kD type I integral transmembrane glycoprotein
Distribution	Plasma cells, pre-B cells, epithelial cells, endothelial cells
Function	Adhesion, controls cell morphology, regulates cell growth
Ligand/Receptor	FGFb, collagen, fibronectin
Cell Type	B cells, Endothelial cells, Epithelial cells, Plasma cells
Biology Area	Cell Adhesion, Cell Biology, Cell Motility/Cytoskeleton/Structure, Immunology, Neuroscience, Synaptic Biology
Molecular Family	Adhesion Molecules, CD Molecules
Antigen References	<ol style="list-style-type: none">1. Sanderson RD, <i>et al.</i> 1992. <i>Cell. Regul.</i> 1:27.2. Zola H, <i>et al.</i> 2007. <i>Leukocyte and Stromal Cell Molecules: The CD Markers.</i> Wiley-Liss A John Wiley & Sons Inc, Publication.
Gene ID	6382

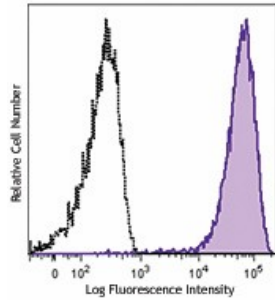
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

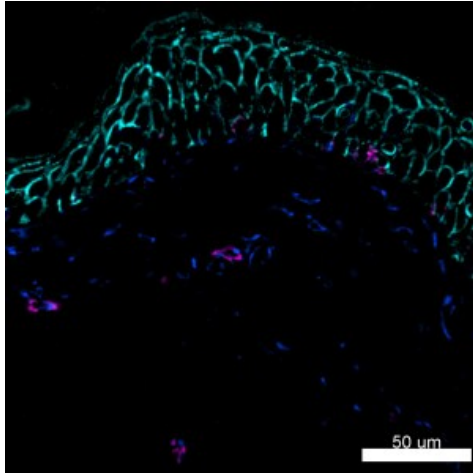
Other Formats

PE anti-human CD138 (Syndecan-1), Purified anti-human CD138 (Syndecan-1), APC anti-human CD138 (Syndecan-1), FITC anti-human CD138 (Syndecan-1), PerCP/Cyanine5.5 anti-human CD138 (Syndecan-1), Alexa Fluor® 700 anti-human CD138 (Syndecan-1), PE/Cyanine7 anti-human CD138 (Syndecan-1), Brilliant Violet 421™ anti-human CD138 (Syndecan-1), Brilliant Violet 510™ anti-human CD138 (Syndecan-1), Brilliant Violet 605™ anti-human CD138 (Syndecan-1), Brilliant Violet 711™ anti-human CD138 (Syndecan-1), Alexa Fluor® 647 anti-human CD138 (Syndecan-1), Alexa Fluor® 594 anti-human CD138 (Syndecan-1), PE/Dazzle™ 594 anti-human CD138 (Syndecan-1), APC/Cyanine7 anti-human CD138 (Syndecan-1), Pacific Blue™ anti-human CD138 (Syndecan-1), TotalSeq™-A0055 anti-human CD138 (Syndecan-1), Brilliant Violet 785™ anti-human CD138 (Syndecan-1), Biotin anti-human CD138 (Syndecan-1), TotalSeq™-C0055 anti-human CD138 (Syndecan-1), APC/Fire™ 750 anti-human CD138 (Syndecan-1), TotalSeq™-B0055 anti-human CD138 (Syndecan-1), PE/Cyanine5 anti-human CD138 (Syndecan-1), TotalSeq™-D0055 anti-human CD138 (Syndecan-1), PE/Fire™ 640 anti-human CD138 (Syndecan-1), Spark Violet™ 500 anti-human CD138 (Syndecan-1)

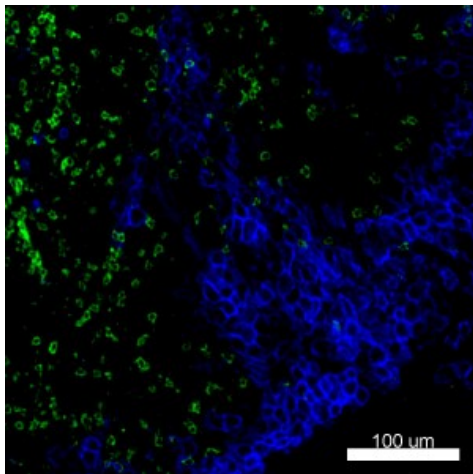
Product Data



Human myeloma cell line U266 was stained with CD138 (clone MI15) Alexa Fluor® 647 (filled histogram) or mouse IgG1, κ Alexa Fluor® 647 isotype control (open histogram).



Confocal image of human skin sample acquired using the IBEX method of highly multiplexed antibody-based imaging: CD117 (magenta) in Cycle 3, CD138 (cyan) in Cycle 4, and Vimentin (blue) in Cycle 5. 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 metastatic lymph node sample acquired using the IBEX method of highly multiplexed antibody-based imaging: CD8 (green) in Cycle 1 and CD138 (blue) in Cycle 5. 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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BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587