Datasheet: MCA2459GA BATCH NUMBER 168799

Description:	MOUSE ANTI HUMAN CD138
Specificity:	CD138
Other names:	SYNDECAN-1
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	B-A38
Isotype:	lgG1
Quantity:	0.1 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit <u>www.bio-rad-antibodies.com/protocols</u>.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	-			Neat
Immunohistology - Frozen				1/100 - 1/500
Immunohistology - Paraffin (1)	-			1/100 - 1/500
ELISA			•	
Immunoprecipitation				
Western Blotting	•			
Immunofluorescence	•			
Functional Assays (2)	-			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

(1)This product requires heat pre-treatment. Sodium citrate buffer pH6.0 is recommended for this purpose.

(2) This product contains sodium azide, removal by dialysis is recommended prior to use in functional assays.

Target Species	Human
Product Form	Purified IgG - liquid

Preparation	Purified IgG prepared by ion exchange chromatography from tissue culture supernatant
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide 1% Bovine Serum Albumin
Approx. Protein Concentrations	IgG concentration 0.1 mg/ml
Immunogen	U266 cell line.
External Database Links	UniProt: <u>P18827</u> <u>Related reagents</u> Entrez Gene: <u>6382</u> SDC1 <u>Related reagents</u>
Synonyms	SDC
RRID	AB_566508
Fusion Partners	Spleen cells from immunized Balb/c (Iffa Credo) mice were fused with cells of the mouse X63/Ag.8653 myeloma cell line.
Specificity	Mouse anti human CD138 antibody, clone B-A38 recognizes human CD138, also known as Syndecan-1 (SDC-1). CD138 is a member of the transmembrane heparan sulfate proteoglycan family (O'Connell <i>et al.</i> 2004, Sanderson <i>et al.</i> 2008). It is composed of a core protein (comprising 3 domains; a short cytoplasmic domain, a transmembrane domain, and a long extracellular domain) and covalently attached heparan sulfate chains (Sanderson <i>et al.</i> 2008). Syndecan-1 is expressed on the surface of plasma cells within the hematopoietic system and on the surface of mature epithelial cells (O'Connell <i>et al.</i> 2004). It acts as an extracellular matrix receptor, involved in many cellular functions, including cell binding, cell signaling and cytoskeletal organization through cell-cell adhesion and cell-matrix adhesion
Flow Cytomatry	(<u>Sanderson <i>et al.</i> 2008</u>).
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
Histology Positive Control Tissue	Bone Marrow
References	 Borset, M. <i>et al.</i> (1993) Lack of IL-1 secretion from human myeloma cells highly purified by immunomagnetic separation. <u>Br J Haematol. 85 (3): 446-51.</u> Guedez, L. <i>et al.</i> (2005) Tissue inhibitor of metalloproteinase 1 (TIMP-1) promotes plasmablastic differentiation of a Burkitt lymphoma cell line: implications in the pathogenesis of plasmacytic/plasmablastic tumors. <u>Blood. 105: 1660-8.</u>

3. Lum, D. & Wong, K.P. (2006) Sarcomatoid plasmacytoma: a diagnosis not often considered. <u>Pathology. 38 (6): 593-6.</u>

4. Yang, Y. *et al.* (2007) The syndecan-1 heparan sulfate proteoglycan is a viable target for myeloma therapy. <u>Blood. 110: 2041-8.</u>

5. Beauvais, D.M. *et al.* (2009) Syndecan-1 regulates alphavbeta3 and alphavbeta5 integrin activation during angiogenesis and is blocked by synstatin, a novel peptide inhibitor. J Exp Med. 206: 691-705.

6. Mahshid Y *et al.* (2009) High expression of 5-lipoxygenase in normal and malignant mantle zone B lymphocytes. <u>BMC Immunol. 10: 2.</u>

7. Gill, J. *et al.* (2009) A case of hyperIgG4 disease or IgG4-related sclerosing disease presenting as retroperitoneal fibrosis, chronic sclerosing sialadenitis and mediastinal lymphadenopathy. <u>Pathology. 41 (3): 297-300.</u>

8. Kylänpää, L. *et al.* (2009) Syndecan-1 and tenascin expression in cystic tumors of the pancreas. JOP. 10 (4): 378-82.

9. Beauvais, D.M. and Rapraeger, A.C. (2010) Syndecan-1 couples the insulin-like growth factor-1 receptor to inside-out integrin activation <u>J Cell Sci. 123: 3796-807.</u>

10. Kim, Y.C. *et al.* (2010) Presence of *Porphyromonas gingivalis* and plasma cell dominance in gingival tissues with periodontitis. <u>Oral Dis. 16: 375-81.</u>

11. Chang, H. *et al.* (2010) CKS1B nuclear expression is inversely correlated with p27Kip1 expression and is predictive of an adverse survival in patients with multiple myeloma. <u>Haematologica. 95: 1542-7.</u>

12. Li, K. *et al.* (2010) Anaplastic lymphoma kinase-positive diffuse large B-cell lymphoma presenting as an isolated nasopharyngeal mass: a case report and review of literature. <u>Int J Clin Exp Pathol. 4: 190-6.</u>

13. Thaunat, O. *et al.* (2010) Chronic rejection triggers the development of an aggressive intragraft immune response through recapitulation of lymphoid organogenesis. <u>J Immunol.</u> <u>185: 717-28.</u>

14. Du, S. *et al.* (2010) Systemic mastocytosis in association with chronic lymphocytic leukemia and plasma cell myeloma. Int J Clin Exp Pathol. 3 (4): 448-57.

15. Cannizzo, E. *et al.* (2012) The role of CD19 and CD27 in the diagnosis of multiple myeloma by flow cytometry: a new statistical model. <u>Am J Clin Pathol. 137 (3): 377-86.</u>

16. Li, K. *et al.* (2012) A rare and unique case of aggressive IgE-γ plasma cell myeloma in a 28-year-old woman presented initially as an orbital mass. <u>Hum Pathol. 43: 2376-84.</u>

17. Mittal, S. *et al.* (2013) Lymphoid aggregates that resemble tertiary lymphoid organs define a specific pathological subset in metal-on-metal hip replacements. <u>PLoS One. 8 (5):</u> <u>e63470.</u>

18. Itoua Maïga, R. *et al.* (2014) Flow cytometry assessment of *in vitro* generated CD138+ human plasma cells. <u>Biomed Res Int. 2014: 536482.</u>

Adepu, S. *et al.* (2015) Incipient renal transplant dysfunction associates with tubular syndecan-1 expression and shedding. <u>Am J Physiol Renal Physiol. 309 (2): F137-45.</u>
 Di Niro, R. *et al.* (2016) Responsive population dynamics and wide seeding into the

duodenal lamina propria of transglutaminase-2-specific plasma cells in celiac disease. <u>Mucosal Immunol. 9 (1): 254-64.</u>

21. Hara, S. *et al.* (2016) Distribution and components of interstitial inflammation and fibrosis in IgG4-related kidney disease: analysis of autopsy specimens. <u>Hum Pathol. 55:</u> 164-73.

22. Hosseini, A. et al. (2016) Morphometric analysis of inflammation in bronchial biopsies

following exposure to inhaled diesel exhaust and allergen challenge in atopic subjects. <u>Part Fibre Toxicol. 13: 2.</u>

23. Uenoyama, A. *et al.* (2016) Effects of C-xylopyranoside derivative on epithelial regeneration in an in vitro 3D oral mucosa model. <u>Biosci Biotechnol Biochem. 80 (7):</u> <u>1344-55.</u>

24. Hourai, R. *et al.* (2017) IgG4-positive cell infiltration in various cardiovascular disorders - results from histopathological analysis of surgical samples. <u>BMC Cardiovasc Disord. 17</u> (<u>1): 52</u>.

25. Nagata, K. *et al.* (2017) Epstein-Barr Virus Lytic Reactivation Activates B Cells Polyclonally and Induces Activation-Induced Cytidine Deaminase Expression: A Mechanism Underlying Autoimmunity and Its Contribution to Graves' Disease. <u>Viral</u> <u>Immunol. 30 (3): 240-9.</u>

26. Tran, D.N. *et al.* (2017) Polychromatic flow cytometry is more sensitive than microscopy in detecting small monoclonal plasma cell populations. <u>Cytometry B Clin</u> <u>Cytom. 92 (2): 136-144.</u>

27. Puchalapalli, M. *et al.* (2019) The Laminin-α1 Chain-Derived Peptide, AG73, Binds to Syndecans on MDA-231 Breast Cancer Cells and Alters Filopodium Formation. <u>Anal Cell</u> <u>Pathol (Amst). 2019: 9192516.</u>

28. Hara, S. *et al.* (2019) High Level Estradiol Induces EBV Reactivation and EBV gp350/220(+)CD138(+) Double-positive B Cell Population in Graves' Disease Patients and Healthy Controls. <u>Yonago Acta Med. 62 (2): 240-243.</u>

29. Forsberg, P.A. *et al.* (2019) Cellular proliferation by multiplex immunohistochemistry identifies aggressive disease behavior in relapsed multiple myeloma. <u>Leuk Lymphoma. 60</u> (8): 2085-7.

30. Egeland, N.G. *et al.* (2020) MiR-18a and miR-18b are expressed in the stroma of oestrogen receptor alpha negative breast cancers. <u>BMC Cancer. 20 (1): 377.</u>

31. Ebian, F.H. *et al.* (2021) Predictive Value of CD229, CD319 and c-Maf Overexpression for Treatment Response in Multiple Myeloma Patients Egypt J Hosp Med. 85 (1): 3157-65.

32. Elbezanti, W.O. *et al.* (2022) Development of a novel Bruton's tyrosine kinase inhibitor that exerts anti-cancer activities potentiates response of chemotherapeutic agents in multiple myeloma stem cell-like cells. <u>Front Pharmacol. 13: 894535.</u>

33. Muñoz, U. *et al.* (2022) Main Role of Antibodies in Demyelination and Axonal Damage in Multiple Sclerosis. <u>Cell Mol Neurobiol. 42 (6): 1809-27.</u>

34. Campeiro, J.D. *et al.* (2023) Crotamine/siRNA Nanocomplexes for Functional Downregulation of Syndecan-1 in Renal Proximal Tubular Epithelial Cells. <u>Pharmaceutics.</u> <u>15 (6): 1576.</u>

35. Liu, D. *et al.* (2021) Glucocorticoids Elevate *Pseudomonas aeruginosa* Binding to
Airway Epithelium by Upregulating Syndecan-1 Expression. <u>Front Microbiol. 12: 725483.</u>
36. Lammerts, R.G.M. *et al.* (2020) Properdin Pattern Recognition on Proximal Tubular
Cells Is Heparan Sulfate/Syndecan-1 but Not C3b Dependent and Can Be Blocked by
Tick Protein Salp20. <u>Front Immunol. 11: 1643.</u>

37. Shaalan, W. *et al.* (2024) Decreased expression of Syndecan- 1 (CD138) in the endometrium of adenomyosis patients suggests a potential pathogenetic role. <u>Acta Obstet</u> <u>Gynecol Scand. Nov 20 [Epub ahead of print].</u>

Further Reading1. Anttonen, A. *et al.* (1999) Syndecan-1 expression has prognostic significance in head
and neck carcinoma. <u>Br J Cancer. 79 (3-4): 558-64.</u>

	 O'Connell, F.P. <i>et al.</i> (2004) CD138 (syndecan-1), a plasma cell marker immunohistochemical profile in hematopoietic and nonhematopoietic neoplasms. <u>Am J</u> <u>Clin Pathol. 121:254-63.</u> Sanderson, R.D. <i>et al.</i> (2008) Syndecan-1: a dynamic regulator of the myeloma microenvironment. <u>Clin Exp Metastasis. 25:149-59.</u>
Storage	This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C. Avoid repeated freezing and thawing as this may denature the antibody. Storage in
	frost-free freezers is not recommended.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA2459GA 10041
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12)			RPE			
Goat Ant	i Mouse IgG IgA IgM (STAR87) <u>HRI</u>	2			
Goat Anti Mouse IgG (STAR76)		RPE				
Goat Anti Mouse IgG (STAR70)		<u>FITC</u>				
Goat Ant	i Mouse IgG (H/L) (STAR117)	<u>Alk.</u>	Phos., DyLight®488, Dy	<u>Light®550,</u>		
		DyL	ight®650, DyLight®680,	DyLight®800	<u>),</u>	
		FIT	<u>C, HRP</u>			
Rabbit Anti Mouse IgG (STAR13)		HRP				
Goat Anti Mouse IgG (Fc) (STAR120)		FITC, HRP				
Rabbit Anti Mouse IgG (STAR9)		<u>FITC</u>				
Goat Anti Mouse IgG (STAR77)		HRP				
Recommended Negative Controls						
MOUSE IgG1 NEGATIVE CONTROL (MCA928)						
North & South	Tel: +1 800 265 7376 Worldwid	de	Tel: +44 (0)1865 852 700	Europe	Tel: +49 (0) 89 8090 95 21	
America	Fax: +1 919 878 3751		Fax: +44 (0)1865 852 739		Fax: +49 (0) 89 8090 95 50	
	Email: antibody_sales_us@bio-rad.com		Email: antibody_sales_uk@bio-rac	1.com	Email: antibody_sales_de@bio-rad.com	

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