

Datasheet: MCA709SBV610

BATCH NUMBER 64760600

Description:	RAT ANTI HUMAN CD28:StarBright Violet 610
Specificity:	CD28
Format:	StarBright Violet 610
Product Type:	Monoclonal Antibody
Clone:	YTH913.12
Isotype:	IgG2b
Quantity:	100 TESTS/0.5ml

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 www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry (1)	▪			Neat

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)Staining at lower temperatures generally requires longer incubation to reach antibody binding equilibrium, and this effect is more pronounced for StarBright Dyes due to their larger size. For optimum staining, Bio-Rad recommends incubating samples either overnight at 4°C or 1 hour at room temperature.

Target Species	Human		
Product Form	Purified IgG conjugated to StarBright Violet 610 - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	StarBright Violet 610	403	607
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% Sodium Azide (NaN ₃)		

Stabilisers	1% Bovine Serum Albumin 0.1% Pluronic F68 0.1% PEG 3350
Approx. Protein Concentrations	For information on the concentration of our StarBright Dye conjugated reagents please visit our FAQ page.
Immunogen	Human peripheral blood T-cells.
External Database Links	UniProt: P10747 Related reagents Entrez Gene: 940 CD28 Related reagents
Fusion Partners	Spleen cells from an immunized DA rat were fused with cells of the Y3/Ag 1.2.3 rat myeloma cell line.
Specificity	Rat anti Human CD28 antibody, clone YTH913.12 recognizes human CD28, a ~44 kDa single pass type 1 trans-membrane protein expressed as a homodimer on a major subset of human T-cells (Thompson <i>et al.</i> 1989), responsible for activation of these cells via interaction with the TCR. CD28 is involved in the tuning of the T-cell for activation via TCR, lowering the threshold for activation from around 8000 triggered TCRs to approximately 1500 (Viola <i>et al.</i> 1996). CD28 along with CD152, also known as CTLA-4 acts as a co-receptor for the co-stimulatory molecules CD80 and CD86 (Azuma <i>et al.</i> 1993). CD28 offers a positive stimulatory role on ligation of CD80 and CD86 while CTLA-4 offers a negative feedback signal preventing CD28 mediated T-cell activation of CD86 (Krummel <i>et al.</i> 1995). Rat anti human CD28, clone YTH913.12 has been reported to recognize an epitope of CD28 expressed by NK cells, which is not recognized by other anti human CD28 clones such as 9.3 and CD28.2 (Galea-Lauri <i>et al.</i> 1999.) Other reports however have failed to demonstrate CD28 staining on peripheral blood derived NK cells using clone YTH913.12 (Wilson <i>et al.</i> 1999).
Flow Cytometry	Use 5µl of the suggested working dilution to label 0.5x10 ⁶ cells in 100µl. Best practices suggest a 5 min centrifugation at 6,000g prior to sample application.
References	- Reiter, C. (1989) Cluster Report: CD28 in Leucocyte Typing IV: White Cell Differentiation Antigens. Edited by Knapp, W., Dorken, B., Gilks, W.R., Rieber, E.P., Schmidt, R.E., Stein, H. and von dem Borne, A.E.G.Kr. Oxford University Press. pp 352-3. - McLeod, J.D. <i>et al.</i> (1998) Activation of human T cells with superantigen (staphylococcal enterotoxin B) and CD28 confers resistance to apoptosis via CD95. J Immunol. 160: 2072-9. - Galea-Lauri, J. <i>et al.</i> (1999) Expression of a variant of CD28 on a subpopulation of human NK cells: implications for B7-mediated stimulation of NK cells. J Immunol. 163 (1):

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Storage	This product is shipped at ambient temperature. Store at +4°C. DO NOT FREEZE. This product should be stored undiluted.
Guarantee	12 months from date of despatch

Acknowledgements	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
Health And Safety Information	Material Safety Datasheet documentation #20438 available at: https://www.bio-rad-antibodies.com/SDS/MCA709SBV610
Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

[HUMAN SEROBLOCK \(BUF070A\)](#)

[HUMAN SEROBLOCK \(BUF070B\)](#)

Product inquiries: www.bio-rad-antibodies.com/technical-support

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

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