Datasheet: MCA2671A647

Description:	MOUSE ANTI HUMAN CD243:Alexa Fluor® 647
Specificity:	CD243
Other names:	MULTIDRUG RESISTANCE PROTEIN 1
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	UIC2
Isotype:	IgG2a
Quantity:	100 TESTS/1ml

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	▪			Neat - 1/5

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.

Target Species

Human

Species Cross Reactivity

Reacts with: Primate
Does not react with:Mouse, Rat
N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

Product Form

Purified IgG conjugated to Alexa Fluor® 647 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
Alexa Fluor®647	650	665

Preparation

Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide (NaN_3) 1% Bovine Serum Albumin
Approx. Protein Concentrations	IgG concentration 0.05mg/ml
Immunogen	Mouse Balb/c 3T3 fibroblasts transfected with human CD243 cDNA.
External Database Links	**UniProt:** P08183 Related reagents **Entrez Gene:** 5243 ABCB1 Related reagents
Synonyms	MDR1, PGY1
RRID	AB_2273404
Specificity	**Mouse anti Human CD243, clone UIC2** recognizes an extracellular conformational epitope of CD243, also known as MDR1 (multi-drug resistance protein 1) and Pgp (P-glycoprotein), a multi pass transmembrane protein and member of the ABC transporter (ATP-binding cassette) family, containing two ABC transporter type 1 domains and two ABC transporter domains. CD243 acts as an active efflux pump for a diverse range of lipophillic compounds. CD243 is expressed at low levels in the cell membrane of peripheral blood leucocytes, and constitutively expressed on the apical plasma membrane of excretory epithelial cells of the kidney, liver, brain and small intestine. CD243 mediates resistance to many chemotherapeutic agents used for tumour suppression and is therefore of special interest to oncologists. Clone UIC2 is a strong inhibitor of CD243-mediated efflux and of the resistance of MDR cells to CD243 transported cytotoxic drugs. Clone UIC2 can be used in a shift assay to selectively demonstrate the expression and functional activity of CD243 in a target cell (Park *et al.* 2003). Clone UIC2 does not cross-react with mitochondrial pyruvate carboxylase. Exposure of monocytes, which do not constitutively express CD243 leads to an increase in surface expression and a significant enhancement of its substrate efflux activity. This increase in cell surface expression and efflux activity has implications for the drug resistance actions of CD243, not allowing concentrations of therapeutic agents such as cyclosporine (ritonavir) to reach beneficial levels in cells (Tempestilli *et al.* 2014).
Flow Cytometry	Use 10ul of the suggested working dilution to label $1x10^6$ cells in 100ul.
References	1. Mechetner, E.B. & Roninson, I.B. (1992) Efficient inhibition of P-glycoprotein-mediated multidrug resistance with a monoclonal antibody. Proc Natl Acad Sci U S A. 89 (13):

5824-8.
2. Park, S.W. *et al*. (2003) Analysis of P-glycoprotein-mediated membrane transport in human peripheral blood lymphocytes using the UIC2 shift assay. Cytometry Part A. 53A: 67-78.
3. Koziolek MJ *et al.* (2001) Expression of multidrug resistance P-glycoprotein in kidney allografts from cyclosporine A-treated patients. Kidney Int. 60 (1): 156-66.
4. Beck WT *et al.* (1996) Methods to detect P-glycoprotein-associated multidrug resistance in patients' tumors: consensus recommendations. Cancer Res. 56 (13): 3010-20.
5. Meister, S. *et al.* (2010) Calcium Channel Blocker Verapamil Enhances Endoplasmic Reticulum Stress and Cell Death Induced by Proteasome Inhibition in Myeloma Cells Neoplasia. 12: 550-61.
6. Tempestilli, M. *et al.* (2014) Low-density lipoprotein and ritonavir: an interaction between antiretrovirals and lipids mediated by P-glycoprotein. J Antimicrob Chemother. 69 (7): 1760-6.

Storage	Store at +4°C or at -20°C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted. This product is photosensitive and should be protected from light. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Guarantee	12 months from date of despatch
Acknowledgements	This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchase product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG2a NEGATIVE CONTROL:Alexa Fluor® 647 (MCA929A647)

Recommended Useful Reagents

HUMAN SEROBLOCK (BUF070A)

North & South America	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com	**Worldwide**	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	**Europe**	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com

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