# Datasheet: MCA2671GA

## BATCH NUMBER 165852

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| **Description:** | MOUSE ANTI HUMAN CD243 |
| **Specificity:** | CD243 |
| **Other names:** | MULTIDRUG RESISTANCE PROTEIN 1 |
| **Format:** | Purified |
| **Product Type:** | Monoclonal Antibody |
| **Clone:** | UIC2 |
| **Isotype:** | IgG2a |
| **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 www.bio-rad-antibodies.com/protocols.

| | Yes | No | Not Determined | Suggested Dilution |
|---|---|---|---|---|
| Flow Cytometry | ▪ | | | 1/50 - 1/200 |
| Immunohistology - Frozen | ▪ | | | |
| Immunohistology - Paraffin (1) | ▪ | | | |
| ELISA | | | ▪ | |
| Immunoprecipitation | ▪ | | | |
| Western Blotting | | | ▪ | |
| Immunofluorescence | ▪ | | | |

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 antigen retrieval using heat treatment prior to staining of paraffin sections.Sodium citrate buffer pH 6.0 is recommended for this purpose.**

**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

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| | further information. |
| **Product Form** | Purified IgG - liquid |
| **Preparation** | Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant |
| **Buffer Solution** | Phosphate buffered saline |
| **Preservative Stabilisers** | 0.09% Sodium Azide ($NaN_3$) |
| **Carrier Free** | Yes |
| **Approx. Protein Concentrations** | IgG concentration 1.0mg/ml |
| **Immunogen** | Mouse Balb/c 3T3 fibroblasts transfected with human CD243 cDNA. |
| **External Database Links** | **UniProt:**<br>P08183 Related reagents<br><br>**Entrez Gene:**<br>5243 ABCB1 Related reagents |
| **Synonyms** | MDR1, PGY1 |
| **RRID** | AB_1055648 |
| **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.<br><br>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.<br><br>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 |

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| | 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 1x$10^6$ cells in 100ul. |
| **Histology Positive Control Tissue** | Human kidney. |
| **References** | 1. Beck WT *et al.* (1996) Methods to detect P-glycoprotein-associated multidrug resistance in patients' tumors: consensus recommendations. Cancer Res. 56 (13): 3010-20.<br>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.<br>3. 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.<br>4. 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** | 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.<br><br>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 #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA2671GA<br>10040 |
| **Regulatory** | For research purposes only |

## Related Products

### Recommended Secondary Antibodies

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| Goat Anti Mouse IgG (STAR77...) | HRP |
| Rabbit Anti Mouse IgG (STAR12...) | RPE |
| Goat Anti Mouse IgG IgA IgM (STAR87...) | Alk. Phos., HRP |
| Goat Anti Mouse IgG (STAR76...) | RPE |
| Rabbit Anti Mouse IgG (STAR13...) | HRP |
| Goat Anti Mouse IgG (STAR70...) | FITC |

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| Goat Anti Mouse IgG (H/L) (STAR117...) | Alk. Phos., DyLight®488, DyLight®550, DyLight®650, DyLight®680, DyLight®800, FITC, HRP |
| Rabbit Anti Mouse IgG (STAR9...) | FITC |
| Goat Anti Mouse IgG (Fc) (STAR120...) | FITC, HRP |

## Recommended Negative Controls

MOUSE IgG2a NEGATIVE CONTROL (MCA929)


**North & South America**
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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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