

PRODUCT DATA SHEET

Product: Anti-MDR1 / P-Glycoprotein mAb, clone MRK16
(No BSA, No Sodium Azide)

Cat. No.: MC-017 (150 µg)

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Synonyms:

P-glycoprotein, MDR1, p170

Background:

Human P-glycoprotein is a multi-drug resistance (MDR) product that acts as an ATP-dependent efflux pump to remove drugs and other potentially harmful products from the cell interior. Research has linked multi-drug resistance in cancer cells to the overexpression of P-glycoprotein.

Specificity:

Monoclonal antibody MRK16 recognizes a surface epitope of the 170 kDa human P-glycoprotein. The antibody reacts with human cortical adenomas but does not react with eochromocytoma, non-functioning cortical adenoma or myolipoma of the adrenal. MRK16 does not react with mouse P-glycoprotein. (Other clones which react with inner membrane epitopes may cross-react with heavy chains of muscle myosin and/or type A blood.) Since MRK16 reacts with P-glycoprotein exposed on the cell surface, living cells can be labeled. After binding, MRK16 inhibits the function of P-glycoprotein. A P-glycoprotein-MRK16-Protein A-Sepharose complex from human adrenals possesses ATPase activity.

Species Reactivity:

Human. Does NOT react with mouse. Others not tested.

Ig Isotype:

Mouse IgG_{2a}

Immunogen:

Adriamycin-resistant human myelogenous leukemia K-562/ADM cells

Hybridoma:

Mouse myeloma (P3/X63-Ag8) x immunized mouse (Balb/c) spleen cells

Format:

300 µL of 500 µg/mL monoclonal antibody in PBS. No BSA or preservative is added. Purified by Protein A affinity chromatography.

Storage:

Store at -20°C. Aliquot to avoid freeze/thaws. **Maintain sterility.** Product does not contain a preservative.

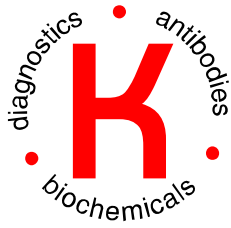
Applications and Suggested Dilutions:

The following applications have been reported by and published by users of this antibody. Please see published papers for details. Investigators should empirically determine the suitability of the antibody, including optimal dilutions, for their applications of interest.

- Flow cytometry
- Immunoprecipitation
- Immunohistochemistry
- Western blot: **Does not react.** Apparently, the epitope recognized by this antibody is lost in the presence of protein denaturing agents such as SDS.

References:

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3. Tsuruo, T. (1988). Jpn. J. Cancer Res. 79: 285-96.
4. Ishida, Y. et al. (1989). Jpn. J. Cancer Res. 80: 1006-13.
5. Sugawara, I. et al. (1989). Jpn. J. Cancer Res. 80: 1199-205.
6. Schlaifer, D. et al. (1990). Br. J. Cancer 62: 177-82.
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9. Georges, Elias. et al. (1993). J. Biol. Chem. 268: 1792-98.



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11. Iwahashi, I. et al. (1993). Cancer Res. 53: 5475-82.
12. Schinkel, A.H. et al. (1993). Int. J. Cancer 55: 478-84.
13. Hoof, T. et al. (1994). J Biol. Chem. 269: 20575-83.
14. Scott, A.M. et al. (1995). Nucl. Med. Biol. 22: 497-504.
15. Beck, W.T. et al. (1996). Cancer Res. 56: 3010-20.
16. Anderle, P. et al. (1997) J. of Pharm. Sciences 87(6):757-762.

Limitations:

For *in vitro* research use only. Not for use in diagnostics or in humans.

Warranty:

No warranties, expressed or implied, are made regarding the use of this product. **KAMIYA BIOMEDICAL COMPANY** is not liable for any damage, personal injury, or economic loss caused by this product.