



PRODUCT DATA SHEET

Product: Anti-MDR1 / P-Glycoprotein mAb, clone MRK16

Cat. No.: MC-012 (150 µg)

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Synonyms:

Anti-P-glycoprotein, anti-MDR1, anti-p170

Background:

Human P-glycoprotein is a multidrug resistance (MDR1) product that acts as an ATP-dependent efflux pump to remove drugs and other potentially harmful products from the cell interior. Research has linked multidrug resistance in cancer cells to the overexpression of P-glycoprotein.

Specificity:

Monoclonal antibody MRK16 recognizes a 170 kDa surface epitope of human P-glycoprotein. The antibody reacts with P-glycoprotein of 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, with protein stabilizer, 0.1% sodium azide. Purified by Protein A affinity chromatography.

Storage:

Store at -20°C. Avoid repeated freeze/thaw cycles.

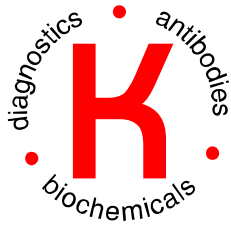
Possible Applications:

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.

Reference Summary:

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2. Fitzgerald, D.J. et al. (1987). Proc. Natl. Acad. Sci. USA 84: 4288-92.
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.
7. Mizuno, Y. et al. (1991). Eur. J. Pediatr. 150: 416-18.
8. Evans, C.H. & Baker, P.D. (1992). Cancer Res. 52: 5893-99.
9. Georges, Elias. et al. (1993). J. Biol. Chem. 268: 1792-98.
10. Hunter, J. et al. (1993). J. Biol. Chem. 268: 14991-97.
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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