DATA SHEET

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

Cat. No.: MC-012 (150 µµµg)

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 Pglycoprotein.

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 Pglycoprotein. 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 IgG2a

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.

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Applications and Suggested Dilutions: Potential Uses: cancer multidrug resistance studies, anti-cancer agent screening, AIDS multi-drug resistance studies, nervous system research, immunology research and transplant rejection studies, endocrine/steroid research, endothelium cell and brain P-glycoprotein research.

- **Flow cytometry:** For 5 x 10^5 pelleted cells use 50 µL of 10-100 µg/mL.
- **Immunoprecipitation:** Generally use between 25 µg/mL and 50 µg/mL.
- **Immunohistochemistry:** Generally use between 0.1 µg/mL and 10 µg/mL.

Appropriate dilution must be decided upon according to staining method, conditions, etc.

Frozen tissue staining can be done provided that mild fixation treatment is used, such as 4% paraformaldehyde. Acetone, paraffin, methyl alcohol, and ethyl alcohol should not be used as a fixative. Iodine labeling can also be performed on MRK16.

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

The optimal dilution for a specific application should be determined by the researcher.

References:

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

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