SANTA CRUZ BIOTECHNOLOGY, INC.

Mdr (C-19): sc-1517

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cells selected for resistance to a single cytotoxic drug may become cross-resistant to a broad range of drugs with different structures and cellular targets. This phenomenon is called multiple drug resistance (MDR). MDR proteins (Mdrs) are members of a highly conserved superfamily of ATP-binding cassette transport proteins. Mdr-1 is an apical transmembrane protein that is an integral part of the blood-brain barrier and functions as a drug-transport pump transporting a variety of drugs from the brain back into the blood. Mdr-3 is associated with a malignant phenotype in B cell lymphocytic leukemias. The Mdr-1 gene is known as ABCB1 and is located on human chromosome 7. The mouse homolog of Mdr-1 is known as Mdr-3. Interestingly, a murine protein by the name of Mdr-1 exists and is encoded by the murine Abcb1b gene, but it is not homologous with human Mdr-1. Similarly, the human Mdr-3 gene, which is known as ABCB4, also maps to chromosome 7. The mouse homolog of Mdr-3 is designated Mdr-2.

CHROMOSOMAL LOCATION

Genetic locus: ABCB1/ABCB4 (human) mapping to 7q21.12; Abcb1b/Abcb4/Abcb1a (mouse) mapping to 5 A1.

SOURCE

Mdr (C-19) is available as either goat (sc-1517) or rabbit (sc-1517-R) affinity purified polyclonal antibody raised against a peptide mapping at the C-terminus of Mdr -1 of human origin.

PRODUCT

Each vial contains either 200 µg (sc-1517) or 100 µg (sc-1517-R) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Mdr (C-19) is available conjugated either fluorescein (sc-1517 FITC, 200 µg/ml), Alexa Fluor® 488 (sc-1517 AF488, 200 µg/ml) or Alexa Fluor® 647 (sc-1517 AF647, 200 µg/ml), for IF, IHC(P) and FCM.

In addition, Mdr (C-19) is available conjugated to either TRITC (sc-1517 TRITC, 200 µg/ml) or Alexa Fluor® 405 (sc-1517 AF405), 100 µg/2 ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-1517 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

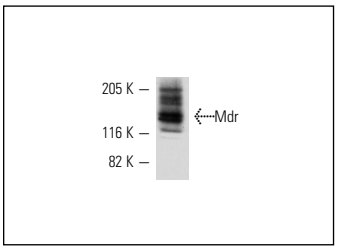
Mdr (C-19) is recommended for detection of Mdr-1 and Mdr-3 of mouse, rat and human origin, and Mdr-2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). Mdr (C-19) is also recommended for detection of Mdr-1 and Mdr-3 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of Mdr: 170 kDa.

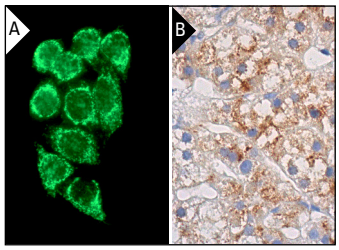
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Mdr (C-19): sc-1517. Western blot analysis of Mdr (P-glycoprotein) expression in MES-SA/Dx5 whole cell lysate.



Mdr (C-19) Alexa Floor® 488: sc-1517 AF488. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Mdr (C-19)-R: sc-1517-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Matsuoka, Y., et al. 1999. Developmental expression of P-glycoprotein (multidrug resistance gene product) in the rat brain. J. Neurobiol. 39: 383-392.
2. Helms, H.C., et al. 2010. Paracellular tightness and claudin-5 expression is increased in the BCEC/astrocyte blood-brain barrier model by increasing media buffer capacity during growth. AAPS J. 12: 759-770.
3. Chen, H., et al. 2010. Co-expression of CD147/EMMPRIN with monocarboxylate transporters and multiple drug resistance proteins is associated with epithelial ovarian cancer progression. Clin. Exp. Metastasis 27: 557-569.
4. Neuhaus, W., et al. 2010. Blood-brain barrier cell line PBMEC/C1-2 possesses functionally active P-glycoprotein. Neurosci. Lett. 469: 224-228.
5. Hao, J., et al. 2010. Co-expression of CD147 (EMMPRIN), CD44v3-10, MDR1 and monocarboxylate transporters is associated with prostate cancer drug resistance and progression. Br. J. Cancer 103: 1008-1018.
6. Sze, S.C., et al. 2011. Regulation of p21, MMP-1, and MDR-1 expression in human colon carcinoma HT29 cells by Tian Xian liquid, a chinese medicinal formula, *in vitro* and *in vivo*. Integr. Cancer Ther. 10: 58-69.
7. Budde, T., et al. 2011. Acute exposure to doxorubicin results in increased cardiac P-glycoprotein expression. J. Pharm. Sci. 100: 3951-3958.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

MONOS Satisfaction Guaranteed

Try **Mdr-1 (D-11): sc-55510**, our highly recommended monoclonal alternative to Mdr (C-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Mdr-1 (D-11): sc-55510**.