SANTA CRUZ BIOTECHNOLOGY, INC.

LRP (1032): sc-23917

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Tumor cells that are insensitive to anticancer drugs often have a multidrug-resistant (MDR) phenotype. Proteins associated with this phenomenon are transport-associated proteins such as P-glycoprotein, multidrug resistance protein 1, lung resistance-related protein (LRP) and breast cancer resistance protein (BCRP). The LRP protein, which is identified as the major vault protein (MVP), is overexpressed in various multidrug-resistant cancer cell lines and clinical samples. The promoter of LRP is TATA-less; contains an inverted CCAAT-box and a Sp1 site located near a p53 binding motif. LRP has two alternative splice variants, which differ from each other within the 5'-leader. The long-LRP isoform is ubiquitously expressed and represents an almost constant portion of the total LRP mRNA in many different normal tissues. LRP is the major component of the multimeric ribonucleoprotein complexes, with several copies of an untranslated RNA, which has been shown to transport along cytoskeletal-based cellular tracks. In conclusion, LRP protein mediates drug resistance, perhaps via a transport process.

REFERENCES

1. Scheffer, G.L., et al. 1995. The drug resistance-related protein LRP is the human major vault protein. Nat. Med. 1: 578-582.
2. Herrmann, C., et al. 1999. Recombinant major vault protein is targeted to neuritic tips of PC12 cells. J. Cell Biol. 144: 1163-1172.

CHROMOSOMAL LOCATION

Genetic locus: MVP (human) mapping to 16p11.2; Mvp (mouse) mapping to 7 F3.

SOURCE

LRP (1032) is a mouse monoclonal antibody raised against LRP purified from MCF7 cells of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

LRP (1032) is recommended for detection of LRP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for LRP siRNA (h): sc-35824, LRP siRNA (m): sc-35825, LRP shRNA Plasmid (h): sc-35824-SH, LRP shRNA Plasmid (m): sc-35825-SH, LRP shRNA (h) Lentiviral Particles: sc-35824-V and LRP shRNA (m) Lentiviral Particles: sc-35825-V.

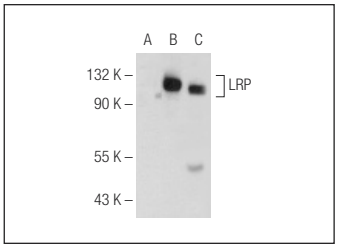
Molecular Weight of LRP: 110 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, T98G cell lysate: sc-2294 or LRP (h2): 293T Lysate: sc-170414.

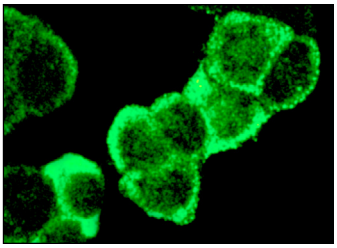
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



LRP (1032): sc-23917. Western blot analysis of LRP expression in non-transfected 293T: sc-117752 (**A**), human LRP transfected 293T: sc-170414 (**B**) and HeLa (**C**) whole cell lysates.



LRP (1032): sc-23917. Immunofluorescence staining of methanol-fixed MCF7 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Tang, S., et al. 2013. 14-3-3ε boosts bleomycin-induced DNA damage response by inhibiting the drug-resistant activity of MVP. J. Proteome Res. 12: 2511-2524.
2. Bober, J., et al. 2016. Identification of new FGF1 binding partners-implications for its intracellular function. IUBMB Life 68: 242-251.
3. Liu, H., et al. 2018. Trps1 is associated with the multidrug resistance of lung cancer cell by regulating MGMT gene expression. Cancer Med. 7: 1921-1932.
4. Michel, O., et al. 2022. The role of catechin in electroporation of pancreatic cancer cells-effects on pore formation and multidrug resistance proteins. Bioelectrochemistry 147: 108199.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.