

# LRP (42): sc-135975

## 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.
3. Scheffer, G.L., et al. 2000. Lung resistance-related protein/major vault protein and vaults in multidrug-resistant cancer. *Curr. Opin. Oncol.* 12: 550-556.
4. Lange, C., et al. 2000. Cloning and initial analysis of the human multidrug resistance-related MVP/LRP gene promoter. *Biochem. Biophys. Res. Commun.* 278: 125-133.
5. Takebayashi, Y., et al. 2001. Expression of multidrug resistance associated transporters (Mdr-1, MRP1, LRP and BCRP) in porcine oocyte. *Int. J. Mol. Med.* 7: 397-400.
6. Holzmann, K., et al. 2001. A small upstream open reading frame causes inhibition of human major vault protein expression from a ubiquitous mRNA splice variant. *FEBS Lett.* 494: 99-104.

## CHROMOSOMAL LOCATION

Genetic locus: MVP (human) mapping to 16p11.2.

## SOURCE

LRP (42) is a mouse monoclonal antibody raised against amino acids 403-592 of LRP of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

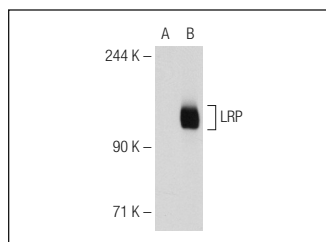
LRP (42) is recommended for detection of LRP of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

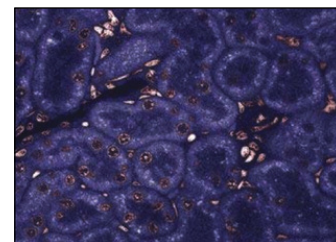
Molecular Weight of LRP: 110 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, SK-BR-3 cell lysate: sc-2218 or LRP (h): 293T Lysate: sc-170301.

## DATA



LRP (42): sc-135975. Western blot analysis of LRP expression in non-transfected: sc-117752 (A) and human LRP transfected: sc-170301 (B) 293T whole cell lysates.



LRP (42): sc-135975. Immunofluorescence staining of rabbit kidney cells showing nuclear and cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Wang, F., et al. 2017. Reversal of doxorubicin-resistance by *Salvia miltiorrhiza* ligustrazine in the SHG44/doxorubicin glioma drug-resistant cell line. *Oncol. Lett.* 14: 4708-4714.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.