

# LRP (G-14): sc-18701

## 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 and 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

- Scheffer, G.L., et al. 1995. The drug resistance-related protein LRP is the human major vault protein. *Nat. Med.* 1: 578-582.
- Herrmann, C., et al. 1999. Recombinant major vault protein is targeted to neuritic tips of PC12 cells. *J. Cell Biol.* 144: 1163-1172.
- 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.
- 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.
- Takebayashi, Y., et al. 2001. Expression of multidrug resistance associated transporters (MDR1, MRP1, LRP and BCRP) in porcine oocyte. *Int. J. Mol. Med.* 7: 397-400.
- 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; Mvp (mouse) mapping to 7 F3.

## SOURCE

LRP (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of LRP of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18701 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

LRP (G-14) is recommended for detection of lung resistance-related protein (LRP), also designated major vault protein (MVP) of mouse, rat and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

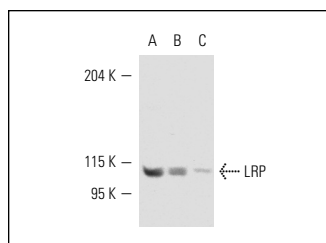
LRP (G-14) is also recommended for detection of lung resistance-related protein (LRP), also designated major vault protein (MVP) in additional species, including equine, canine, bovine and porcine.

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: U-87 MG cell lysate: sc-2411, T98G cell lysate: sc-2294 or Caki-1 cell lysate: sc-2224.

## DATA



LRP (G-14): sc-18701. Western blot analysis of LRP expression in U-87 MG (A), T98G (B) and Caki-1 (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Tian, B., et al. 2011. p53 suppresses lung resistance-related protein expression through Y-box binding protein 1 in the MCF-7 breast tumor cell line. *J. Cell. Physiol.* 226: 3433-3441.

## 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.


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Try **LRP (1014): sc-23916** or **LRP (E-2): sc-390134**, our highly recommended monoclonal alternatives to LRP (G-14).