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AM32041SU-N Monoclonal Antibody to Major Vault Protein - Supernatant

Alternate names: LRP, Lung-Resistance Related Protein, MVP

Quantity: 1 ml

Concentration: ~0.25 mg IgG /ml (by ELISA)

Background: MVP is identical to lung-resistance related protein (LRP). Vaults are large ribonucleoprotein particles (RNPs) present in all eukaryotic cells. They have a complex morphology, including several small molecules of RNA, but a single protein species. The MVP accounts for >70% of their mass. Their shape is reminiscent of the nucleopore central plug. Amino acid 241-280 of human estrogen receptor (ER), (site of nuclear localization signal sequence), is mapped to be the site of interaction between ER and MVP. Treatment of cells with estradiol increases the amount of MVP in nuclear extract. Anti-estrogen 1C1182 shows no effect. The hormone-dependent interaction of vaults with ER is prevented in vitro by sodium molybdate. Antibodies to progesterone and glucocorticoid receptors are also able to co-immunoprecipitate the MVP. LRP is a protein overexpressed in many neoplastic tissues and cell lines. Expression of LRP predicts a poor response to chemotherapy.
This 104-kD protein is the major vault protein (MVP) also described as the lung resistance protein (LRP) and has shown to interact with the estrogen receptor. The protein is part of a very large vault ribonucleoprotein complex present in all eukaryotic cells and its structure and protein composition is highly conserved. Because of the size, shape, and protein and RNA composition of this complex the particles are different from other ribonucleoproteins.

Uniprot ID: Q14764

NCBI: NP_005106.2

GeneID: 9961

Host / Isotype: Mouse / IgG2b

Clone: MVP-37

Format: **State:** Serum Free Culture Supernatant
Preservatives: 0.09% Sodium Azide
Stabilizers: 0.7% BSA

Applications: **Western blotting:** 1/50 dilution (chemiluminescence).
Immunohistochemistry: Use ~1/20-1/50 dilution on 4% paraformaldehyde fixed cytospin preparations or frozen tissue sections.
Pretreatment: 10 min 20 mM Glycine (pH 7.5) and 10 min 6 N Guanidine Hydrochloride in 50 mM Tris-HCl, pH 7.5 (See Schroeijers et al., 2000).
Immunohistochemistry on Paraffin-Embedded Tissue Sections.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This Monoclonal antibody *MVP-37* reacts with an internal epitope of MVP/LRP (p110), which is strongly overexpressed in various Human non-P-glycoprotein MDR tumor cell lines, accordingly to an increase in the number of vault particles.

Species Reactivity: **Tested:** Human.

Storage: Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. Schroeijers AB et al., In: Thesis Schroeijers AB, Chapter 4: 2000.
2. Schroeijers AB, Siva AC, Scheffer GL, de Jong MC, Bolick SC, Dukers DF, et al. The Mr 193,000 vault protein is up-regulated in multidrug-resistant cancer cell lines. Cancer Res. 2000 Feb 15;60(4):1104-10. PubMed PMID: 10706131.
3. Kickhoefer VA, Siva AC, Kedersha NL, Inman EM, Ruland C, Streuli M, et al. The 193-kD vault protein, VPARP, is a novel poly(ADP-ribose) polymerase. J Cell Biol. 1999 Sep 6;146(5):917-28. PubMed PMID: 10477748.
4. Kickhoefer VA, Rajavel KS, Scheffer GL, Dalton WS, Scheper RJ, Rome LH. Vaults are up-regulated in multidrug-resistant cancer cell lines. J Biol Chem. 1998 Apr 10;273(15):8971-4. PubMed PMID: 9535882.
5. Scheper RJ, Broxterman HJ, Scheffer GL, Kaaijk P, Dalton WS, van Heijningen TH, et al. Overexpression of a M(r) 110,000 vesicular protein in non-P-glycoprotein-mediated multidrug resistance. Cancer Res. 1993 Apr 1;53(7):1475-9. PubMed PMID: 7680954.
6. Scheffer GL, Wijngaard PL, Flens MJ, Izquierdo MA, Slovak ML, Pinedo HM, et al. The drug resistance-related protein LRP is the human major vault protein. Nat Med. 1995 Jun;1(6):578-82. PubMed PMID: 7585126.
7. Izquierdo MA, Scheffer GL, Schroeijers AB, de Jong MC, Scheper RJ. Vault-related resistance to anticancer drugs determined by the expression of the major vault protein LRP. Cytotechnology. 1998 Sep;27(1-3):137-48. doi: 10.1023/A:1008004502861. PubMed PMID: 19002788.