



## Product Information

### Monoclonal Anti-Minor Vault Protein 193 (p193, VPARP)

Clone p193-10  
Mouse Culture Supernatant

Product Number **M 6942**

#### Product Description

Monoclonal Anti-Minor Vault Protein 193 (p193, VPARP) (mouse IgG2a $\kappa$  isotype) is derived from the p193-10 hybridoma produced by the fusion SP2/O mouse myeloma cells and lymph nodes cells from a BALB/c mouse immunized with an *E. coli* lysate transformed with pET28a(+) expression vector containing amino acids 408-611 of p193 cDNA. The antibody is concentrated from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-Minor Vault Protein 193 (p193, VPARP) reacts with an internal epitope (amino acids 506-510, VALGK) of p193. The antibody may be used in immunocytochemistry, immunohistochemistry (frozen sections), and immunoblotting.

Vault proteins are 13-MDa ribonucleoprotein (RNP) complexes composed largely of the 100 kDa major vault protein and two minor vault proteins, high molecular weight proteins, p193 (VPARP) and p240 (TEP1, telomerase-associated protein 1).<sup>1-8</sup> Vaults are multi-subunit structures present in all eukaryotic cells and may be involved in nucleocytoplasmic transport. Increased levels of vault proteins have been linked directly to non-P-glycoprotein-mediated multidrug resistance (MDR).

The 193 kDa vault protein, VPARP (vault poly(ADP-ribose) polymerase), shares approximately 28% identity with the catalytic domain of poly(ADP-ribose) polymerase (PARP).<sup>4</sup> PARP is a nuclear protein that catalyzes the formation of ADP-ribose polymers in response to DNA damage. VPARP is overexpressed in various human non-P-glycoprotein multidrug-resistant (MDR) tumor cell lines, accordingly to an increase in the number of vault particles.

#### Reagent

Monoclonal Anti-Minor Vault Protein 193 (p193, VPARP) is supplied as a solution in serum-free culture medium, containing 0.7% bovine serum albumin and 0.1% sodium azide.

Antibody concentration: Approx. 250  $\mu$ g/ml

#### Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

#### Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

#### Product Profile

A working antibody dilution of 1:10-1:20 is recommended in immunocytochemistry using 4% paraformaldehyde-fixed cytospin preparations.

A working antibody dilution of 1:10-1:20 is recommended in immunohistochemistry using frozen tissue sections.

**Pretreatment:** Using 4% paraformaldehyde-fixed cytospin preparations or frozen tissue sections, pretreatment should be applied as follows: 10 minutes in 20 mM glycine in phosphate buffered saline, pH 7.5, and 10 minutes in a solution of 6 N guanidine hydrochloride in 50 mM Tris-HCl (pH 7.5).

A minimum working antibody dilution of 1:10-1:20 is recommended in immunoblotting using a chemiluminescence detection system.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

#### References

1. Scheffer, G.L., et al., The drug resistance-related protein LRP is the human major vault protein. *Nature Med.*, **1**, 578-582 (1995).
2. Scheper, R.J., et al., Overexpression of a Mr 110,000 vesicular protein in non-P-glycoprotein-mediated multidrug resistance. *Cancer Res.*, **53**, 1475-1479 (1993).
3. Schroeijers, A.B., et al., The Mr 193,000 vault protein is up-regulated in multidrug-resistant cancer cell lines. *Cancer Res.*, **60**, 1104-1110 (2000).
4. Kickhoefer, V.A., et al., The 193-kD vault protein, VPARP, is a novel poly(ADP-ribose) polymerase. *J. Cell Biol.*, **146**, 917-928 (1999).
5. Kickhoefer, V.A., et al., Vaults are up-regulated in multidrug-resistant cancer cell lines. *J. Biol. Chem.*, **273**, 8971-8974 (1998).
6. Siva, A.C., et al., Up-regulation of vaults may be necessary but not sufficient for multidrug resistance. *Int. J. Cancer*, **92**, 195-202 (2001).
7. van Zon, A., et al., The formation of vault-tubes : a dynamic interaction between vaults and vault PARP. *J. Cell Sci.*, **116**, 4391-4400 (2003).
8. van Zon, A., et al., Multiple human vault RNAs. *J. Biol. Chem.*, **276**, 37715-37721 (2001).

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