3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-VSV Glycoprotein antibody
Mouse monoclonal, clone P5D4
purified from hybridoma cell culture

Product Number **SAB4200695**

Product Description

Anti-VSV Glycoprotein antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the hybridoma P5D4 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide containing the 15 C-terminal fragment of Vesicular Stomatitis Virus Glycoprotein (VSV-G), conjugated to KLH.[1] The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells.

Anti-VSV Glycoprotein antibody, Mouse monoclonal (VSV-G) recognizes the five C-terminal amino acids of the vesicular stomatitis virus (VSV) envelope glycoprotein.[1,2] Monoclonal anti-VSV Glycoprotein (VSV-G) can be used to study the VSV virus-host cell interactions and also for the detection of fusion proteins tagged with N- or C-terminal VSV-G tag (YTDIEMNRLGK).[3] The antibody may be used in several immunochemical techniques including immunoblotting,[1,4] immunoprecipitation,[3,5-6] immunocytochemistry,[1,3-7] transmission electron microscopy (TEM),[1,2,5] and in studies applying microinjection of the antibody.[1-2] The antibody recognizes the immature forms of VSV-G in the rough endoplasmic reticulum (RER), Golgi and the mature VSV-G at the cell surface and in the budding virus. However, it does not recognize the secreted form of VSV-G, lacking the membrane and the cytoplasmic domains.[1]

Epitope tags provide a useful method to localize gene products in a variety of cell types, study the topology of proteins and protein complexes, and to identify protein-protein interactions. In addition, it allows characterization of newly identified, low abundance or poorly immunogenic proteins when protein specific antibodies are not available.[8] Utilizing a viral epitope as a tag minimizes the risk of having the same epitope in cellular proteins, and thus, the possibility of antibody cross-reaction with non viral proteins.

VSV-G constitutes an attractive model to study maturation and intracellular transport of membrane proteins.[9] It mediates attachment of VSV to the cell surface and induces pH-dependent fusion between viral and target membranes.[1] In addition, its cytoplasmic domain contains information for several intracellular sorting steps, which include efficient export from the ER, basolateral delivery and endocytosis,[5,10] the unidirectional transport between Golgi cisternae was demonstrated using Golgi membranes containing VSV-G.[5] Temperature sensitive mutants of VSV-G are used to study exit of folding intermediates from the endoplasmic reticulum.[11]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

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

Product Profile

Immunoblotting: a working concentration of 0.5-1 μg/mL is recommended using whole extract of human HEK-293T cells overexpressing vinculin with VSV-G tagged fusion protein.

Immunofluorescence: a working concentration of 5-10 μg/mL is recommended using COS7 cells overexpressing vinculin with VSV-G tagged fusion protein.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration .

References

1. Kreis, T.E., *EMBO J.*, **5**, 931-41 (1986).
2. Kreis, T.E., and Lodish, H.F., *Cell*, **46**, 929-37 (1986).
3. Soldati, T., and Perriard, J.C., *Cell*, **66**, 277-89 (1991).
4. Zheng Y., et al., *Nucleic Acids Res.*, **43**, e73 (2015).
5. Hammond, C., and Helenius, A., *J. Cell Biol.*, **126**, 41-52 (1994).
6. Li, J., et al., *Proc. Natl. Acad. Sci. USA*, **94**, 502-07 (1997).
7. Duden, R., et al., *Cell*, **64**, 649-65 (1991).
8. Jarvik, J.W., and Telmer, C.A., *Annu. Rev. Genet.*, **32**, 601-18 (1998).
9. Ohnishi S., *Curr. Top. Membr. Transp.*, **32**, 257-96 (1988).
10. Sevier, C.S., and Machamer, C.E., *Biochem. Biophys. Res. Com.*, **287**, 574-82 (2001).
11. Aridor M., et al., *J. Biol. Chem.*, **274**, 4389-99 (1999).

VS,DR,LV,OKF,AI,PHC,MAM 08/19-1