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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

Anti-Viral hemorrhagic septicemia virus [3F1A2] Standard Size Ab04106-21.0

This antibody does not have a J-chain and therefore presents as a hexamer, rather than a pentamer.

Isotype and Format: Mouse IgM, Kappa

Clone Number: 3F1A2

Alternative Name(s) of Target: G; Spike glycoprotein

UniProt Accession Number of Target Protein: P27662

Published Application(s): in vitro, PNT, ELISA

Published Species Reactivity: VHSV, Viral hemorrhagic septicemia virus

Immunogen: The original antibody was generated by immunizing BALB/c mice with Egtved virus by intraperitoneal injections five times over two months, followed by an additional intravenous booster injection on week nine. The hybridoma cell line secreting clone 3F1A2 was selected from a subsequent fusion after three more months of continued immunization.

Specificity: This antibody is specific for the transmembrane envelope glycoprotein (G protein) of viral hemorrhagic septicemia virus (VHSV). The G protein is the only protein known to be present on the surface of the virus particle, and it constitutes less than 10% of the mass of the virus particle which is dominated by N, M1 and M2. This antibody demonstrated similar neutralizing activity to clone 3F1H10, and they were found to interfere with each other's binding reciprocally, which indicates they recognize the same or partially related epitopes.

Application Notes: The neutralizing activity of the original format of this antibody (mouse IgG1) against different VHSV isolates was determined by 50% PNT; it neutralized type I isolates VHSV (I-F1 and I-92) and type II isolate VHSV (II-31) well, but higher concentrations were needed to neutralize type III isolates (III-51 and III-37). ELISA was used to detect and quantify the antibody's binding efficiency to various VHSV strains. The antibody's binding kinetics were evaluated by surface plasmon resonance (SPR) analysis resulting in a K_D of 2.4 nM for the immobilized G protein of VHSV strain I-F1 and a K_D of 12.1 nM for the immobilized G protein of VHSV strain I-92 (Lorenzen et al., 2000; PMID: 10938729). The Fab and recombinant single-chain antibody fragments (scAbs) versions of this antibody neutralized VHSV, indicating that the Fc moiety and divalency of the antibody molecules are unnecessary for neutralization. However, the neutralizing activity of Fab and scAb fragments was generally lower compared to the parent antibody due to the higher avidity of the divalent parent molecules; the Fab and scAb fragments exhibited a 10-100-fold increase in k_d compared to the parent MAb, while the k_a s were similar. The increased k_d was accompanied by decreased neutralizing activity. The K_D measured against immobilized G protein of VHSV strain DK-F1 was 2.4 nM for

the parent MAbs and 227 and 77 nM for the daughter Fab and scAb, respectively (Cupit et al., 2001; PMID: 11682124).

Antibody First Published in: Lorenzen et al. Three monoclonal antibodies to the VHS virus glycoprotein: comparison of reactivity in relation to differences in immunoglobulin variable domain gene sequences Fish Shellfish Immunol. 2000 Feb;10(2):129-42. doi: 10.1006/fsim.1999.0232 [PMID:10938729](#)

Note on publication: The original publication compares three monoclonal antibodies to the glycoprotein of viral hemorrhagic septicemia virus (VHSV) in terms of their reactivity and neutralizing activity, while examining the differences in immunoglobulin variable domain gene sequences and their potential role in antibody functionality.

Product Form

Size: 50 µg Purified antibody.

Purification: Affinity Purified using a recombinant lectin column

Supplied In: PBS with 0.02% Proclin 300.

Storage Recommendation: Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

Concentration: 1 mg/ml.

Important note - This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.