Anti-dsRNA [9D5] Standard Size Ab00458-1.1

This reformatted mouse antibody was made using the variable domain sequences of the original Mouse format, for improved compatibility with existing reagents, assays and techniques.

Isotype and Format: Mouse IgG1, Kappa
Clone Number: 9D5
Alternative Name(s) of Target: double-stranded RNA; double-stranded ribonucleic acid
UniProt Accession Number of Target Protein:
Published Application(s): WB, ELISA, IF, IHC
Published Species Reactivity: Virus
Immunogen: RDV-RNA-methylated bovine serum albumin complex.
Specificity: The antibody is a dsRNA-specific antibody, which does not react to ssRNA, ribosome RNA, tRNA and DNA. However, the antibody was originally developed for pan-enterovirus diagnosis.
Application Notes: The antibody binds specifically to ds-RNA, which is part of the genetic material of some viruses, such as rotaviruses and the bluetongue virus. The antibody can be used as a diagnostic tool, to determine the nature of an unknown pathogen, and could potentially be used in gene therapy (Kitagawa et al. 1977; PMID:918970). The antibody and clone J2 (Ab01299) were used for detection dsRNA of SARS-CoV antigens in IHC. While the clone 9D5 did not generate any chromogen deposit J2 was able to detect dsRNA in infected cell pellets with cytoplasmic chromogen deposits (Lean et al., 2020; PMID: 33318594). Liver and spleen samples of six animals which tested USUV positive were further immunohistochemically investigated for dsRNA expression by using the 3 different clones 9D5, K1 and J2. The amount of immunopositive cells for the expression of dsRNA differed substantially, depending on the antibody used. Detection level of dsRNA by using the 9D5 antibody remained low in comparison to K1 and J2 antibodies (Störk et al., 2021; PMID: 34921222). However, 9D5 was found to be more sensitive than the J2 and K1 for the detection of dsRNA from negative-stranded and ambisense RNA viruses, as well as single-stranded DNA viruses in IF analysis (Son et al., 2015; PMID: 26136565 and Mateer et al., 2018; PMID: 30087859). In particular, J2 antibody could detect dsRNAs derived from positive-sense viral RNA replication but generated weaker fluorescent signals than 9D5, and failed to detect dsRNAs from infection by negative RNA viruses (Son et al., 2015; PMID: 26136565). dsRNA was detectable by 9D5 during infection with many diverse positive and negative sense RNA viruses including influenza A virus, vesicular stomatitis virus, measles virus, lymphocytic choriomeningitis virus, and arenavirus without the need for any signal amplification (Son et al., 2015; PMID: 26136565 and Mateer et al., 2018; PMID: 30087859). Further, immunofluorescence was

performed on IIV-6-infected S2 cells (de Faria et al. 2022; PMID: 35732126) and Vero CCL81 cells infected with SARS-CoV-2 using this antibody (Pohl et al., 2022; PMID: 35766385). The antibody detected dsDNA in Drosophila S2 cells infected with IIV-6 by western blot analysis (de Faria et al. 2022; PMID: 35732126).
Antibody First Published in: Kitagawa et al. Immunogenicity of rice dwarf virus-ribonucleic acid. Tohoku J. Exp. Med. 122 (4), 337-343 (1977) PMID:918970
Note on publication: Describes the production and characterisation of antibodies against double-stranded RNA found in the rice dwarf virus (RDV). the antibodies are produced in rabbits immunized with anti-RDV-RNA-methylated bovine serum albumin complexes.

Product Form

Size: 200 µg Purified antibody.
Purification: Protein A affinity purified
Supplied In: PBS with 0.02% Proclin 300.
Storage Recommendation: Store at 4^{0}C for up to 3 months. For longer storage, aliquot and store at -20^{0}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.