

Product Information: DAS-ELISA

Cucumber Green Mottle Mosaic Virus (CGMMV)

Synonym: Tobamovirus viridimaculae

Cucumber green mottle mosaic virus (CGMMV) is a member of the genus tobamovirus. In contrast to the well-known tobamovirus TMV (tobacco mosaic virus), CGMMV has a narrow host range that is primarily limited to cucurbit species (including melon, watermelon, cucumber, pumpkin, squash, gourd etc. (1)). The virus occurs worldwide. Symptoms in leaves include mottling, mosaic and distortion. Fruit symptoms can be severe, resulting in poor fruit quality and substantial yield losses (1). The virus is easily transmitted and can spread through mechanical transfer, through seeds as well as through water or nutrient solutions in soilless cultures.

Specificity and sampling instruction

The product is based on polyclonal antibodies that were developed against a CGMMV isolate from cucumber (Germany). Leaf samples are homogenised 1:20 (w/v), seed samples 1:10 (w/v) in extraction buffer «General» (Art. No. 110120).

Since the coat protein sequences of CGMMV isolates show little molecular diversity (2), this DAS-ELISA product can be considered as broad spectrum diagnostic tool. More than 40 CGMMV isolates originating from the USA, Canada, Russia, China, Israel, Kuwait and various countries in Europe were detected. Cross reaction was observed for watermelon green mottle mosaic virus (WGMMV) and zucchini green mottle mosaic virus (ZGMMV). No cross reactivity was observed with the *Tobamoviruses* TMV, ToMV and PMMoV.

The product is based on antibodies developed by the Leibniz Institute DSMZ GmbH, Braunschweig, Germany

Sensitivity

The virus is well detected in infected plant tissue at the recommended dilution (1:20 (w/v)). The analytical sensitivity (relative) in leaves (10^6 to 10^7) and seeds (10^5) was measured by serial dilutions of infected tissue from cucumber and pumpkin.

Information on the antibodies

Coating IgG: polyclonal; conjugate: polyclonal

References

- 1) A. Dombrovsky, L.T.T. Tran-Nguyen and R.A.C. Jones. Annu. Rev. Phytopathol. 2017. 55:10.1-10.26.
- (2) J. Yoon, G. Choi, S.Choi, J. Hong and J.Choi. J. Phytopathol. 156: 408-12.

Ordering Information

BIOREBA offers the following formats:

Individual ELISA reagents for 100, 500 or 1000 assays: IgG and/or conjugate for the working volume of 200 µl/test/well.

Reagent sets for 480 or 960 assays: IgG and conjugate, positive and negative controls, and microtiter plates (F-96) for a working volume of 200 µl/test/well.

Complete kits for 96, 480 or 960 assays: All reagents, controls, microtiter plates (F-96), buffers, and substrate necessary for a working volume of 200 µl/test/well.

ELISA buffers, equipment for sample preparation and disposables are also available.

For all Art. No. please refer to our product catalogue or our homepage www.bioreba.com and for prices and further information on any other product from BIOREBA, please contact your local distributor or our office in Switzerland.

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Version: 3 – 09.05.2025: added revised taxonomy of ICTV and assays of individual ELISA reagents.