

## Product Information: DAS-ELISA

# Cucumber mosaic virus (CMV)

### Synonym: Cucumovirus CMV

CMV (3) is transmitted by aphids in a non-persistent manner, and through the seed in some host plants. Experimentally, it is easily transmitted by mechanical inoculation of plant sap. It is distributed world-wide, causes economically important diseases in a large variety of crop plants. CMV causes mosaic in cucumber, melon and other cucurbits; blight in spinach; mosaic, fern leaf and systemic necrosis in tomato; mosaic and ringspot in pepper; mosaic and stunting in clover, lupins and lucerne; stunting in soybean; mosaic, infectious chlorosis and heart rot in banana; and mosaic and dwarfing in many other species of dicotyledonous and monocotyledonous plants. CMV has the widest host range for any plant virus, including more than 1200 species in over 100 families of dicotyledonous and monocotyledonous angiosperms.

### Specificity and sampling instruction

The broad-spectrum DAS-ELISA reagents (2) contain complementary polyclonal and monoclonal antibodies to different virus isolates. The polyclonal antibodies used for coating were made against isolates in the CMV II subgroup but also recognize CMV I subgroup isolates (1,4). The «conjugate» consists of poly- and monoclonal antibodies, reacting also to isolates of serogroups I and II. The reagents have been used to detect CMV of both subgroups from different plant species from different parts of the world; e.g., from North America, Asia and Europe (R. Martin, personal communication, M. Turina, personal communication and W. Bitterlin, unpublished). Leaf samples are homogenized 1:20 (w/v) in extraction buffer «General» (Art. No. 110120). For testing seeds, we recommend soaking the samples at 4°C for 4 hours in extraction buffer «General» 1:25 (w/v) followed by homogenization.

The product is based on antibodies from USDA-ARS Horticultural Crops Research Laboratory, Corvallis, OR, USA; and from the National Research Council (Institute for Sustainable Plant Protection), Torino, Italy.

### Information on the antibodies

Coating IgG: polyclonal; conjugate: polyclonal/monoclonal

### References

- (1) Bremsak, I.J. 1994. Msc Thesis, Univ. of British Columbia. 111 pp.
- (2) Clark, M.F., and Adams, A. N. 1977. J. gen. Virol. 34:475-483.
- (3) Francki, R.I.B., Mossop, D.W., and Hatta, T. 1979. Descriptions of plant viruses. No. 213. CMI/AAB. 6 pp.
- (4) Peter Palukaitis et al. 1992. II. Taxonomy of cucumber mosaic virus. In: Advances in Virus Research. Vol 41, pp. 284-285.

### 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](http://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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Adaptations from last version: added revised taxonomy of ICTV and assays of individual ELISA reagents.