

Product Information: DAS-ELISA

Cauliflower mosaic virus (CaMV)

Cauliflower mosaic virus (a caulimovirus, synonyms: Brassica virus 3, Broccoli mosaic virus, Cabbage mosaic virus, Cabbage virus B) is distributed worldwide and induces mosaic, mottling, chlorosis and stunting of many crucifereous crop plants and ornamental species, particularly the various cultivars of *Brassica campestris* and *B. oleracea*. These include cabbage, cauliflower, broccoli, Brussels sprouts, turnip, horseradish, Chinese cabbage, mustard, radish and various weeds. Chinese cabbage is particularly susceptible to CaMV. Plants can be stunted. Internal necrotic spotting in storage cabbage has been attributed to CaMV infection. The virus is transmitted by many aphid species.

Specificity and sampling instruction

The reagents were made against a Czech CaMV isolate, multiplied on Chinese cabbage (*Brassica pekinensis*), cv. Nozaki and react specifically with CaMV (4) in DAS-ELISA (1). Isolates from different host plants, e.g. from winter and spring rape, mustards, turnips, and cauliflower, are quite uniform regarding their virulence (3) and serological detection. All isolates of CaMV tested so far have been detected. Main affected crops are different species of Brassica. The concentration of the virus in plants is generally low and their particles are embedded in inclusion bodies. **Samples must be homogenized 1:100 (w/v) in extraction buffer «Caulimo»** (Art. No. 110124). The special extraction buffer (details see below and next page) helps releasing virus particles and significantly increases signal in ELISA.

The product was developed in cooperation with the Institute of Plant Molecular Biology, Ceske Budejovice, Czech Republic.

Information on the antibodies

Coating IgG: polyclonal; conjugate: polyclonal

References

- (1) Clark, M.F., and Adams, A.N. 1977. J. gen. Virol. 34:475-483.
- (2) Shepherd, R.J. 1981. Descriptions of plant viruses. No. 243. CMI/AAB. 6pp.
- (3) Spak, J. 1989. Ochr. Rostl., 25 (3):177-184.
- (4) Spak, J. 1989. Ochr. Rostl., 25 (4):241-247.

«Caulimo» buffer

The extraction buffer «Caulimo» is provided with the complete kits in a quantity of 250 ml or 500 ml, respectively, as 10x concentrate packed with powder of urea and egg albumin. Available also separately (Art. No. 110124).

«Caulimo» buffer preparation

Make up 100 ml of the 10x concentrate to 1000 ml with distilled water. Then add slowly 60 g of urea while stirring until completely dissolved. This buffer is stable for 3 months at 4°C. Just before use, add 10 g per litre egg albumin. First dissolve 10 g of egg albumin in about 20 ml of buffer and then make up to a total of 1000 ml with the remaining buffer (or at equal ratio for other volumes).

Composition of the buffer and ordering information, see next page.

Composition of the «Caulimo» extraction buffer

for 1000 ml, in dist. water (pH 7.4 adjusted with HCl)

TRIS	2.40 g
NaCl	8.00 g
KCl	0.20 g
Tween 20	0.50 g
Triton X-100	5.00 g
PVP	10.00 g
Urea	60.00 g
NaN ₃	0.20 g
BSA	10.00 g
*Egg albumin (ovalbumin)	10.0 g

* to be added just before use

Biohazard

To prevent microbial growth, the buffers contain 0.02 - 0.2 % sodium azide which is toxic when swallowed and irritant if it comes in contact with skin, eyes and mucosae; nevertheless, these products are not considered to present a hazard to health when used in accordance to the principles of Good Laboratory Practice and Good Standards of Occupational Hygiene. Used reagent can be disposed of in the waste water in accordance with local regulations.

Ordering Information

BIOREBA offers the following formats:

Individual ELISA reagents for 96, 480 or 960 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.