

## Product Information: DAS-ELISA

# Cucurbit yellow stunting disorder virus (CYSDV)

**Synonym: Crinivirus cucurbitae**

*Cucurbit yellow stunting disorder virus* (genus *Crinivirus*) was first discovered in the United Arab Emirates (4). The disease occurs mainly in areas where the whitefly vector *Bemisia tabaci* has been established, e.g., the Arabic Peninsula, Eastern and Western Mediterranean basin, some African countries and North America. CYSDV causes serious damage to cucurbit crops with an approximated yield reduction of 30-50% (1, 4, 5). Different species of cucurbits (i.e., melons, cucumber, squash and watermelon) are affected, but other hosts such as lettuce, alfalfa, bean and weed species are infected as well but remain symptomless (6). On cucurbits symptoms normally appear as bright yellowing of older leaves. CYSDV symptoms are often confused with symptoms of nutrient deficiency. The phloem-limited virus is neither seed nor mechanically transmitted, but is transmitted with infected propagation material (transplants). CYSDV is on the EPPO A-2 list (3).

## Specificity and sampling instruction

The DAS-ELISA reagent (2) contains polyclonal antibodies made against a recombinant coat protein of CYSDV. The original viral RNA was isolated from infected, greenhouse-grown cucumbers in Lebanon (5). The antibodies have been validated using infected and healthy plants of different cucurbit species (such as cucumber and melon); they are suitable for specific detection of CYSDV in cucurbits. The virus can be detected in leaves throughout the growing season. The highest virus concentration is present in leaf tissues showing early symptoms of interveinal chlorosis, but not yet completely yellow. Since CYSDV is phloem limited, it is preferred to include the leaf mid vein in the sample to be extracted. Samples are homogenized 1:20 (w/v) in extraction buffer «General» (Art. No. 110120).

The product is based on antibodies from the Faculty of Agricultural and Food Sciences, American University of Beirut, Lebanon.

## Information on the antibodies

Coating IgG: polyclonal; conjugate: polyclonal

## References

- (1) Célix, A., Lopez-Sesé, A., Almarza, N., Gomez-Guillamon, M.L., and Rodriguez-Cerezo, E. 1996 *Phytopathology* 86:1370-1376.
- (2) Clark, M.F., and Adams, A.N. 1977. *J. gen. Virol.* 34:475-483.
- (3) EPPO/OEPP Bulletin (2005) 35: 442-444..
- (4) Hassan, A.A., and Duffus, J.E. 1991. *Emir. J. Agric. Sci.* 2:1-6.
- (5) Hourani, H., and Abou-Jawdah, Y. 2003. *J. Plant. Pathol.* 85 (3):197-204.
- (6) Wintermantel, W.M., Hladky, L.L., and Cortez, A.A. 2009. *Plant Dis.* 93:685-690.

## 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.