



Product Information: DAS-ELISA

Acidovorax avenae subsp. cattleyae (Aacat)

Bacterial brown spot of orchid is a destructive disease caused by *Acidovorax avenae* subsp. *cattleyae* (2). Other host genera for this bacterium are *Cattleya*, *Cypripedium*, *Dendrobium*, *Oncidium*, and *Vanda*. The first symptoms on orchids are soft, water-soaked lesions which eventually turn brown or black. The disease may cause death of seedlings in community pots. Infection on older plants may occur anywhere on the leaf, and can kill the plant if it reaches the growing point. Diseased areas always show a considerable amount of exudate, which contains infectious bacteria that may be carried to other plants by splashing water. On *Cattleya*-type orchids the disease appears on the leaves as sunken, black, water-soaked spots.

Specificity and sampling instruction

The DAS-ELISA reagents (1) were made against the *Phalaenopsis* isolate B108 of Aacat (W. Wohanka, pers. communication). The reagent is suitable for detecting Aacat in cultures or in symptomatic plant leaves (3). All isolates of Aacat tested so far can be detected. Isolates of Aacat can be detected to a concentration of 10⁴ cfu per ml (diluting bacteria from pure culture in extraction buffer). This detection limit is nearly reached when bacteria are diluted in sap of healthy *Phalaenopsis* leaf. There are cross-reactions with other subsp. of *Acidovorax avenae*, such as *Acidovorax avenae* subsp. *citrulli* (Aac) or *Acidovorax avenae* subsp. *avenae* (Aaa). Best results are obtained with an 1:20 (w/v) plant tissue extraction with extraction buffer «General» (Art. No. 110120).

The product was developed in cooperation with the State Research Institute Geisenheim, Germany. The development was partially supported by SWISSORCHID, Meyer Pflanzenkulturen, Wangen (ZH), Switzerland.

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) Saddler, G.S. (1994), *Acidovorax avenae* subsp. *cattleyae*. IMI Descriptions of Fungi and Bacteria, No. 1212. Mycopathologia, 128, pp. 45-46.
- (3) Weichlein, D. (2004). Untersuchungen zur Lebensweise und Bekämpfung von *Acidovorax avenae* ssp. *cattleyae* an *Phalaenopsis*-Hybriden. Diplomarbeit, Fachhochschule Wiesbaden, Fachbereich Gartenbau und Landschaftsarchitektur.

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.

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Adaptations from last version: new ordering information; minor modifications.