

Tech Note: Cross-Reaction

ISK/STX 44001 • *Clavibacter michiganensis* subsp. *michiganensis* (Cmm) ImmunoStrip®

Technical Note and Alert

Five bacterial isolates, not related to *Cmm* and not pathogenic to tomato plants, have been confirmed to produce strong positive reactions on Agdia's *Cmm* ImmunoStrip, catalog number, ISK 44001 and STX 44001. Four isolates have been identified by sequencing as *Ochrobactrum* species; one isolate has been identified as *Microbacterium paraoxydans* [1]. Agdia has received copies of these isolates and has confirmed the positive reactions observed with the *Cmm* ImmunoStrip.

If you observe a suspicious positive ImmunoStrip result that you believe may be due to a cross-reaction with a saprophytic bacteria, it is suggested to re-test the plant as follows: re-sample the same area of the plant, rinse the leaf with deionized or similar purity water and then dry the leaf before extracting the sample. Proceed with the ImmunoStrip as instructed.

The above observations demonstrate the continuing need to confirm positive ImmunoStrip results before making important crop management decisions. ImmunoStrip results may be confirmed by [AmplifyRP® XRT for Cmm](#), by PCR, by sequencing, by cultural tests and bioassays. ELISA is not a useful way to confirm ImmunoStrip tests since they both depend on the use of antibodies.

Agdia's *Cmm* ImmunoStrip detects the extra-cellular polysaccharide [EPS] associated with *Cmm* and not the intact bacteria. It is well known that this ImmunoStrip test also detects other *Clavibacter michiganensis* species that possess common EPS epitopes. The new observations suggest that the ImmunoStrip test also detects polysaccharides associated with *Ochrobactrum* sp. [2] and *Microbacterium* sp.

Many *Ochrobactrum* species are found globally at high concentration in soil. The bacterial isolates were negative in pathogenicity tests with tomato seedlings, and the bacteria did not appear to grow at any plant inoculation site [1].

References:

[1] Chet Kurowski and Matthew May, Monsanto, personal communication.

[2] Michael Lebuhn et al, Taxonomic characterization of *Ochrobactrum* sp. isolates from soil samples and wheat roots, and description of *Ochrobactrum tritici* sp. nov. and *Ochrobactrum grignonense* sp. nov., International Journal of Systematic and Evolutionary Microbiology (2000), 50, 2207–2223.

For answers to your technical questions, please contact us at techsupport@agdia.com.

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