

عنوان مقاله:

Serological relatedness among some phytoplasmas belonging to the group 16SrII

محل انتشار:

اولین کنفرانس ملی یافته های نوین زیست شناسی (سال: 1395)

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خلاصه مقاله:

Phytoplasmas are among the most important plant pathogens belonging to the class Mollicutes. They have been classified into over 35 groups based on the 16S rRNA gene sequences. Phytoplasmas of 16SrII are very common in Iran responsible for diseases in various plant species. In this study the serological relatedness of four 16SrII- related phytoplasmas including lime witches' broom (LWB; 16SrII-B), carrot witches broom (CaWB), cucumber Phyllody (CuPh; 16SrII-D) and alfalfa witches' broom (AlfWB; 16SrII-D) was examined. To this purpose we used the recombinant antibody raised against the Immunodominant membrane protein of the LWB phytoplasma in indirect ELISA. Results showed that the antisera reacted with the lime samples infected by the LWB phytoplasma (mean OD (Optical density)= 0.9). With the same condition the OD obtained with healthy lime samples was 0.18. The mean ODs in the ELISA test achieved with healthy and infected carrot samples were 0.11 and 0.42, respectively. In this regard, LWB and CaWB phytoplasmas had serological relatedness. The mean ODs obtained for infected cucumber and alfalfa plants were 0.17 and 0.14, respectively. The ODs obtained for the healthy cucumber and alfalfa plants were 0.16 and 0.12, respectively. Hence, CuPh and AlfWB phytoplasmas belonging to 16SrII-D showed no serological relatedness with LWB phytoplasma by ELISA. As serological distinction is an important criteria for description of new taxon within phytoplasma species, results of this study argued that phytoplasmas of 16SrII-D and II-B could be accommodate within two species. However, we are aware that further evidences are needed to support this argument.

کلمات کلیدی:

Phytoplasma, serological relatedness, membrane protein, phyllody, witches' broom

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