

## عنوان مقاله:

Preparation of polyclonal antibody against recombinant coat protein of Cucumber mosaic virus isolate B۱۳

## محل انتشار:

Journal of Crop Protection, دوره 6, شماره 1 (سال: 1395)

تعداد صفحات اصل مقاله: 10

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## خلاصه مقاله:

Cucumber mosaic virus (CMV) is one of widely-spread viruses of plants with the broadest host range encompassing over ۱۲۰۰ species. One major limiting factor for detection of the virus is unavailability of the virus-specific antibodies especially in developing countries. Recombinant DNA technology facilitates antibody preparation without requiring special equipment. In this study, coat protein (CP) gene cDNA of CMV was subcloned from pTZ۵۷CMVCP into pET۲۱a expression vector and transformed into Escherichia coli strain Rosetta. Expression of CMV CP was examined by sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE) and its identity was confirmed by western blotting, dot blot immunobinding assay (DIBA) and enzyme-linked immunosorbent assay (ELISA) using anti-CMV antibody. The expressed protein was purified using TY•Tag affinity purification kit and used as antigen for raising polyclonal antibodies in two mice. The purified anti-CMV CP IgG and the conjugated IgG performed favourably in terms of specificity and sensitivity to detect both expressed CP (antigen) and CMV isolates in infected cucurbit plants using plate trapped antigen (PTA)- ELISA, double-antibody sandwich (DAS)-ELISA and western blotting. The prepared antibodies can be applied in serological and sero-molecular tests in studies on the virus and in screening of plants for the infection. This is the first report of preparation of antibodies against CP of an indigenous isolate of CMV

## کلمات کلیدی:

Antibody, Coat Protein, Cucumber mosaic virus, E. coli, Expression, western blot

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1811711>

