Abstract

Karela with scientific name of *Momordica charantia* is a climbing plant belongs to *Cucurbitaceae* family. This plant conventionally used both as food and medicine. *MAP30* gene of this plant has shown antiviral and anticancer activity. The purpose of this study was to isolate and clone the *MAP30* gene in *E. coli* which can increase the universal expression of the protein MAP30. The product of this gene is used as a anti-cancer and anti-viral molecule in numerous researches. In the study, Karela plant DNA was extracted accoding to delapota *et al*. (1983) which is a feasible and economic method. The quantity and quality of the extracted DNA was evaluated by spectrophotometry and agarose gel electrophoresis methods. DNA amplification of *MAP30* gene was designed based on the deposited sequences in the NCBI data base and the gene was amplified in such a way that possessing the potential for colonization in several vectores. The *MAP30* gene was cloned in pTG19-T vector and transferred to DH5α *E. coli* competent cell employing heat- shock method. The transformation was confirmed by applying a selective media containing antibiotics. Production of while colonies was the criterium for successful transformation while the blue colonies represent failure in the transformation process. The sequencing data and cloned DNA segments verified the appropriate and functionel insertion of *MAP30* gene in to the *E. coli*. The obtained bacterial clones with *MAP30* gene in their plasmids are preserved for further researches dealing with *MAP30* protein function.

Key words: *MAP30*, Karela, coloning, E. coli

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Isolstion and cloning of *MAP30* gene of *Momordica charantia* plant in *Escherichia coli*

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