

Development of Taxon-Specific Sequence(s) of Eggplant(s) for LAMP Detection Method

Journal or Publication Title :

Bulletin of the NARO, Food Research
農研機構研究報告 食品研究部門

Number :

1

Page Range :

108

Year :

2017.3

Item Type :

記事 / Article

Development of Taxon-Specific Sequence(s) of Eggplant(s) for LAMP Detection Method

SABINA YEASMIN, Ph.D.

UNU-Kirin Fellow from Bangladesh
GMO Analytical Evaluation Laboratory, Analytical Science Division
National Food Research Institute, NARO

Regulation for labeling of food that includes genetically modified organism (GMO) has been developed and came into effect by a number of countries to enforce consumer's right to know. Many PCR based methods have already been introduced for routine detection or are currently under investigation for their performance in nucleic acid detection. However, for the development of DNA-based detection methods, taxon specific endogenous gene is absolutely imperative for quantification of GMOs as a reference gene and for qualitative detection as a positive control. In addition, to obtain reliable results, the detection must be compared with the corresponding taxon specific reference gene. In this study, the development of taxon specific eggplant β -fructosidase gene primers for Loop Mediated Isothermal Amplification (LAMP), were described. Intra specific homogeneity and inter specific variability of β -fructosidase gene of eggplant with potato and tomato obtained from public database were also analyzed, the limit of detection has obtained as 50 copies of the genome sequence. The results depicted the high specificity and sensitivity of the primers. Therefore, these primers of β -fructosidase gene of eggplant can be used as a taxon specific endogenous reference gene for GMO analysis.

Key words: Genetically Modified Organism (GMO), Loop Mediated Isothermal Amplification (LAMP), β -fructosidase gene