

عنوان مقاله:

Subcloning and expression of blf\ gene isolated from Burkholderia pseudomallei in hairy roots of tobacco plants

محل انتشار:

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خلاصه مقاله:

Melioidosis is a common disease between human and animals caused by Burkholderia pseudomallei. There is currently no effective vaccine for it. The aim of this research was to express blf\ gene in tobacco plants. By transforming the pBI\۲\ vector into Agrobacterium tumefaciens, the blf\ gene was transferred to the tobacco plants and the primary transgenic plants were obtained. The explants obtained from the transgenic plants were used to induce hairy roots. The presence of the blf\ gene was investigated in the obtained hairy roots by PCR and Western blot analysis. The titer of antigen production was measured by ELISA technique. The insertion of the blf\ gene construct into pBI\۲\ vector containing the ctxB gene was confirmed by PCR. The tobacco explants inoculated with A. tumefaciens were cultured on the MS medium containing benzyl-aminopurine (BAP) and \-naphthalene acetic acid (\-NAA). After callus formation and seedling regeneration, the seedlings with active meristems were transferred onto the hormone-free medium for rooting and transgenic tobacco plants containing the blf\ gene were produced. By preparing an explant of transgenic plants by A. rhizogenes, inoculum and hairy roots were obtained. In hairy roots, the presence of blf\ gene was confirmed using PCR and its expression was confirmed by Western blotting. By using the ELISA technique, the titer of BLF\ antigen production in the total soluble protein of hairy roots was determined to be ۰.۵۶%

کلمات کلیدی:

Gene transfer, Tobacco, Melioidosis, Cloning

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