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Effects of medium, sucrose, kinetin and 2,4-D on the accumulation of anthocyanins in habituated callus of purple sweetpotato

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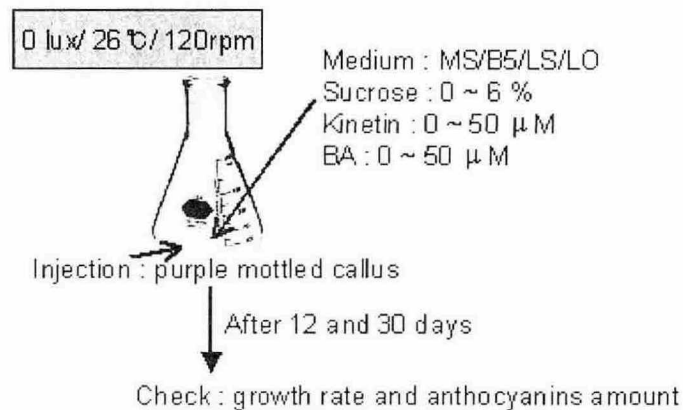
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Objectives

Enhancement of anthocyanin synthesize in habituated callus of purple sweetpotato

Materials and Methods

1. Material : Purple mottled callus from habituated callus clumps
2. Methods:



Results and Discussion

Callus was induced from leaf of purple sweetpotato on MS medium supplemented with different concentrations of 2,4-D (2,4-dichlorophenoxyacetic acid) and BA (6-benzylaminopurine). All the cultures grew slowly following the first subculture. The fast growing callus lines constituted a habituated callus lines. This callus lines were used to suspension culture in MS hormone free liquid medium. After 6 months of culture, these calluses had purple mottled spots. We selected deep purple pigments accumulated in a callus line from purple mottled callus. The color value of the pigment extracted (that after subcultured 1 years) of culture in MS basal medium was 1 mg/mL, which was close to that of a pigment extracted from storage root, which was 1.5 mg/mL. The accumulation of anthocyanin was enhanced by MS medium, 3% sucrose, 0.5~5 M kinetin, and 5 M BA.

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