

Medium Composition for the Laboratory Production of Enzyme Fructosyltransferase (FTase)

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Abstract : Inoculum developments of *A. niger* were used for inoculation of medium for submerged fermentation and solid state fermentation. The filtrate obtained were used as sources of the extra-cellular enzymes. The FTase activities and the course of pH in submerged fermentation ranged from 7.53-24.42 μ /ml and 4.4-4.8 respectively. The maximum FTase activity was obtained at 48 hours fermentation. In solid state fermentation, FTase activities ranged from 2.41-27.77 μ /ml. Using ripe plantain peel and kola nut pod respectively. Both substrates supported the growth of the fungus, producing profuse growth during fermentation. In the control experiment (using kolanut pod) that lack supplementation, appreciable FTase activity of 16.92 μ /ml was obtained. The optimum temperature range was 60 $^{\circ}$ C. it was also active at broad pH range of 1-9 with optimum obtain at pH of 5.0. FTase was stable within the range of investigated pH showing more than 60% activities. FTase can be used in the production of fructooligosaccharide, a functional food.

Keywords : *Aspergillus niger*, solid state fermentation, kola nut pods, Fructosyltransferase (FTase)

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