Development and proteom analysis of recombinant *E.coli* strain Crds-C(836bp) which produces soluble beta-1,3-glucan

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Polysaccharides, particularly glucans, have a long history as immuno -modulators1). β-1,3-glucans have been found to induce the activation of different defence processes in both plants and animal2). β-1,3-glucans are a heterogeneous group of glucose polymers found in the cell walls of plant, yeast, bacteria and fungi.

Following β-1,3-glucan synthesis metabolic pathway, UDP-glucose is the exclusive precursor for the synthesis of β-1,3-glucan. To produce β-1,3-glucan in E. coli, recombinant E. coli strains carrying β-1,3-glucan synthase genes and producing β-1,3-glucan synthase which catalyzed the reaction from UDP-glucose to β-1,3-glucan were developed. As a result, recombinant E. coli strains[CrdS-F(1964bp), CrdS-C(836bp) and CN-termH6(1124bp), CC-termH6(1676bp)] were obtained and their glucan production characteristics were studied. E.coli mutant strain Crds-C (836bp) produces amount 5.9g/L soluble β-1,3-glucan. And then we analyzed the proteome of the E.coli mutant strain Crds-C(836bp) with 2D-electrophoresis.

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