Bioproduction of Protein to Contain the Functional Peptide for Inhibiting Hypertriglyceridemia

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ABSTRACT

In the medicine reports pointed out, the main reason of creating the cardiovascular disease and the obese is the serum triglyceride level too high, secondary is the cholesterol. Generating the hypertriglyceridemia primarily is because the fat metabolism is not normal and can cause the heart coronary arteriosclerosis on the middle-aged person. Therefore, how to prevent the hypertriglyceridemia will be most important. Japanese Company of Hankyu-kyoei Bussan concluded that Val-Val-Tyr-Pro (VVYP) having hypotriglyceridemia function in globin digest is known to inhibit fat absorption in the digestive tract, and to enhance the activity of hepatic triglyceride lipase to increase the clearance of body fat. To establish an efficient process for VVYP production, Aspergillus oryzae alpha-amylase was chosen as a carrier for VVYP peptide. In this study, by overlap PCR method was used to introduce the DNA sequence deduced from VVYP peptide into alpha-amylase gene. When A. oryzae recombinant (pD3456H) raises 20 days, the amylase activity and the quantity of the VVYP-amylase protein secretion is highest, and estimation of 1 liter A. oryzae recombinant (pD3456H) is possible to produce 1.25 g of VVYP-amylase proteins.

Keywords : Val-Val-Tyr-Pro ; amylase ; Aspergillus oryzae

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