Produksi lovastatin kapang aspergillus spp dan pengaruhnya terhadap kadar kolesterol dalam darah tikus (rattus norvegicus l.) galur sprague dawley

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Abstrak

Lovastatin dapat berfungsi menghambat proses pembentukan kolesterol dalam hati, dengan cara penghambatan secara kompetitif terhadap sintesis enzim 3 hydroxy -3-methylglutaryl-koenzim A reduktase (HMG-KoA reduktase). Penelitian bertujuan untuk melakukan skrining kapang Aspergillus. spp. koleksi University of Indonesia Culture Collection (UICC), fermentasi, dan analisis produksi lovastatin. Hasil skrining lovastatin dari sebanyak 40 biakan Aspergillus spp. koleksi UICC 18 biakan (45%) positif menghasilkan lovastatin dan 22 biakan (55%) negatif. Aspergillus flavus UICC 360 menghasilkan lovastatin tertinggi dibandingkan sepuluh Aspergillus spp. terpilih. Analisis Thin Layer Chromatografy (TLC) menunjukkan nilai Rf sepuluh Aspergillus spp. hampir sama dengan standart. Analisis High Performance Chromatography (HPLC) mengkonfirmasi lovastatin Asp. flavus UICC 360 mempunyai waktu retensi sama dengan standart (13,2 menit).

.....Lovastatin is an acting inhibitor of enzyme 3 hydroxy -3-methylglutaryl-coenzyme A reduktase (HMG-CoA reductase) as competitive inhibitor on biosynthesis of cholesterol. The aims of the research is for the selection, fermentation, and analysis of lovastatin from isolates mold Aspergillus spp. at the University of Indonesia Culture Collection (UICC). The results revealed that out of 40 cultures, 18 cultures (45%) produced lovastatin and 22 cultures (55%) were negative. Aspergillus flavus UICC 360 showed the highest lovastatin production compared of 10 selected cultures. Thin Layer Chromatografy (TLC) analysis amount of 10 Aspergillus spp. have similarity of Rf value compared to the standard. High Performance Chromatography (HPLC) analysis confirmed that lovastatin Aspergillus flavus UICC 360 has the same retention time with the standard (13.2 minutes).