

Secretory expression of thermostable T1 lipase through bacteriocin release protein

ABSTRACT

The extracellular production of T1 lipase was performed by co-expression of pJL3 vector encoding bacteriocin release protein in prokaryotic system. Secretory expression was optimized by considering several parameters, including host strains, inducer (IPTG) concentration, media, induction at A600 nm, temperature, and time of induction. Among the host strains tested, Origami B excreted out 18,100 U/ml of lipase activity into culture medium when induced with 50 μ M IPTG for 12 h. The Origami B harboring recombinant plasmid pGEX/T1S and pJL3 vector was chosen for further study. IPTG at 0.05 mM, YT medium, induction at A600 nm of 1.25, 30 °C, and 32 h of induction time were best condition for T1 lipase secretion with Origami B as a host.

Keyword: Geobacillus sp., Thermostable lipase, GST fusion protein, Bacteriocin release protein