

# Isolation and characterization of laccase secreting microorganism from Gua Kelam 2, Perlis

## Abstract

The current study, involves isolation and characterization of laccase producing microbes from Gua Kelam 2, Perlis, Malaysia. In our study, all isolates were cultivated on nutrient agar containing guaiacol. Only one isolate (GK1) was detected as a positive laccase producer which was then subjected for growth curve and kinetic analysis using nutrient broth and minimal salt medium. For nutrient broth, short exponential phase was recorded from 2nd h until 4th h in contrast to minimal salt medium that exhibited exponential phase from 8th h until 24th h. The highest laccase activity was recorded in nutrient broth (4.50 U L<sup>-1</sup>) at 4th h incubation compared to minimal salt medium (3.72 U L<sup>-1</sup>) at 30 h. The isolate GK1, was characterized to be rod shape and Gram positive bacterium. Based on the 16S rRNA sequencing, the isolate determined to be *Bacillus subtilis*.