



## ABSTRACT

*Clostridium thermocellum* endoglucanase gene hydrolyzing carboxymethyl cellulose was amplified by PCR and cloned in pTZ57/RT vector. *Escherichia coli* BL21-CodonPlus was the host strain for expression vector pET21a(+). The gene with 3.6 kbp encoded 137.1 kDa recombinant protein which was expressed intracellularly. The enzyme with optimal activity was obtained when incubated for 24 hours. The optimal temperature and pH of the crude enzyme were 70 °C and 6.0, respectively. The recombinant enzyme was partially purified by heat treatment given to cell lysate extract for 1 hour at 60 °C, followed by partial purification of 42-60 % saturation by ammonium sulfate and subsequent dialysis. 12% SDS-PAGE was run to visualize the recombinant protein.