Rifdiana Eka Nadhifa, 2019, TRANSFORMATION AND EXPRESSION ENCODE GEN \(\alpha\)-L-ARABINOFRANOSIDASE Xanthomonas campestris pv. campestris IN Escherichia coli BL21. This final project is supervised by Prof. Dr. Ni Nyoman Tri Puspaningsih, M. Si. dan Dr. Sri Sumarsih, M.Si., Departement of Chemistry, Faculty of Science and Technology, Airlangga University.

ABSTRACT

The \(\alpha\)-L-arabinofuranosidase Xcc1191 enzyme is an enzyme produced by Xanthomonas campestris pv. The purposes of this research were to express the encode gene of Abfa Xcc1191 in the BL21 E.coli, and to determine the characteristics of Abfa Xcc1191 enzyme that includes the optimum value of temperature and pH. Abfa Xcc1191/E. coli BL21 was the recombinant plasmid transformation result of pET Xcc1191 into E. coli with using method of CaCl\(_2\). The expression of Abfa Xcc1191 enzyme assisted by the inducer of IPTG. The activity enzyme by using DNS method and analysis of enzyme size using SDS-PAGE. The result show that analysis of enzyme size was 55 kDa and the activity of enzyme observed in the variety of temperature and pH the activity of enzyme worked optimally at temperature of 50 °C and at pH of 6 with the value of activity of 0.4736 U.mL\(^{-1}\).

Keywords: \(\alpha\)-L-arabinofuranosidase, Xcc1191, transformation, CaCl\(_2\), optimum pH, optimum temperature, DNS.