



ABSTRACT

Xylose isomerase was competently found to be produced by locally isolated *E.coli*. When it was grown in medium containing 1% xylose as a carbon source this strain produced a raw xylose isomerase activity of roughly 1.85 mg of total protein. Peak enzymatic activity was 53.75 U/ml as detected by nutrient broth components having 1 % NaCl, 0.5% peptone and 2.5 % yeast extract correspondingly. The enzyme was purified after optimization by ammonium sulphate precipitation, dialysis and SDS-PAGE. The approximate molecular weight of xylose isomerase from locally isolated *E.coli* is 43.5 kDa as determined by SDS-PAGE. The K_m value estimated for xylose isomerase is 681.48 mM and its V_{max} value is recorded as 74.04 (U/ml/min). The purified enzyme has optimum activity at 80°C and pH 7.0. It is stable at pH 5.5–8.5 and at temperatures up to 85°C. These findings designate that xylose isomerase has the capacity for commercial application, chiefly for (HFCS) high-fructose corn syrup production by *Escherichia coli*.