

Purification and properties of glucose 6-phosphate dehydrogenase from turkey erythrocytes

Hayrullah Yılmaz¹, Mehmet Çiftçi^{2,3,*},
Şükrü Beydemir², Ebubekir Bakan⁴ and
Ö İrfan Küfrevioğlu²

¹Dicle University, Faculty of Education,
Department of Chemistry

²Atatürk University, Arts and Science Faculty,
Department of Chemistry

³Atatürk University, Biotechnology Application and
Research Center

⁴Atatürk University, Medicinal Faculty,
Department of Biochemistry

Received 25 February 2002; revised 28 October 2002

Glucose 6-phosphate dehydrogenase (G6PD) was purified from turkey erythrocytes by ammonium sulphate precipitation and followed by ADP Sepharose affinity gel chromatography. The yield was 49.71% and specific activity of the enzyme was found to be 44.16 EU/mg protein. By gel filtration the molecular mass was found to be 75 kDa. The enzyme had an optimum pH at 9.0, and optimum temperature at 50°C. K_m and V_{max} for NADP⁺ and glucose 6-phosphate (G6-P) as substrates were also determined and effects of inhibitors such as ATP, NADH and NADPH were examined.