

Purification and Characterization of The G6PD from Rat Erythrocytes

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Glucose-6-phosphate dehydrogenase (**G6PD**; EC 1.1.1.49) is the first and key enzyme of the pentose phosphate (PF) pathway [1]. PF pathway is an alternative way of glycolysis which is the main energy source for red blood and brain cells [2]. As a result of **G6PD** deficiency, oxidant agents can not be detoxified and causes hemolytic anemia. G6PD deficiency is a enzyme anomaly that is the most common and causing disease in humans. The disease generally appears in the Middle East, tropical Africa, Asia and the Mediterranean Region. Most of the people having the G6PD deficiency is shortened with life span because of chronic hemolysis complications [3].

Herein, **G6PD** enzyme was purified of rat erythrocytes. The purification of the enzyme was performed by single step which is 2',5'-ADP Sepharose 4B affinity chromatography. The enzyme which was purified with 1825 of purification fold and in yield of 83,7% was obtained to have a specific activity of 29,2 EU/mg proteins. The purity of the enzyme was controlled, and molecular weight of its subunits was calculated as 56,5 kDa by the SDS-PAGE metod. Also, characteristic properties of the enzyme were determined.

References

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