**In Vitro Effects of Some Chemotherapy Drugs on Glucose-6-Phosphate Dehydrogenase Enzyme Purified from Sheep Spleen**

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**Abstract**

In this study, the inhibition effects of some important drugs used in chemotherapy on glucose-6-phosphate dehydrogenase, a NADP+-dependent enzyme obtained from sheep spleen tissue, were examined in vitro. Sheep spleen glucose-6-phosphate dehydrogenase enzyme (D-glucose-6-phosphate: NADP+ oxidoreductase, EC 1.1.1.49, G6PD) was first purified by 2', 5'-ADP Sepharose 4B affinity chromatography. Enzyme activity was determined spectrophotometrically at 340 nm by the Beutler method. This method was applied in all kinetic studies. Carboplatin, cisplatin, oxaloplatin, fluorouracil, cyclophosphamide and ibandronic acid were used as drugs. In vitro studies showed that oxaloplatin, carboplatin and cyclophosphamide drugs had inhibitory effects on the enzyme in question. It was observed that other drugs did not affect the enzyme much. IC50 values were found by drawing % Activity-[I] graphs for drugs showing inhibitory effects. The IC50 values obtained for oxaloplatin, carboplatin and cyclophosphamide drugs were 3.22 mM, 7.26 mM, and 34.5 mM, respectively.

**Key Words:** Glucose-6-phosphate dehydrogenase, Kemoterapi ilaçları, Inhibiton