



International Journal of PharmTech Research CODEN (USA): IJPRIF, ISSN: 0974-4304, ISSN(Online): 2455-9563 Vol.9, No.8, pp 385-390, 2016

## Purification of Glutathione S–Transferase Enzyme from Human Erythrocytes and Detection of the Effect of Separated and Mixture of Metformin and Daonil Drugs on its Activity

## \*Oda M. Yasser AL-Zamely and Zainab G. Abdulkareem

Department of Chemistry, College of Science, University of Babylon, Iraq.

**Abstract** : Glutathione S-transferases (GSTs) are a super family of enzymes involved in the detoxification of a various xenobiotics including diabetes mellitus drugs. The present studyexplained the effects of metformin and daonil drugs on the enzyme activity of glutathione–S–transferase (EC 2.5.1.18) obtained from human erythrocytes. For this purpose, erythrocyte glutathione S–transferase enzyme was purified **15.37** fold by DEAE-cellulose chromatography with a yield of **12.88%**. During thepurification, the temperature was kept under control (4°C). Enzyme purification was checked by performing SDS–PAGE. Twobandswere obtained approximately at 26 and 34 kDa. GST enzyme activity was determined by spectroscopic monitoring of the formation of 1–chloro–2,4–dinitrobenzene-glutathione (CDNB–GSH) conjugate. The activity of GSTenzyme after treated with diabetes mellitus drugs was **3.62**, **3.57** and **3.66** µmol/min/ml for metformin, daonil and mixture of them respectively while it was **3.24**µmol/min/ml before treated with drugs.

Key words: Glutathione-S-transferase, metformin, daonil, diabetes mellitus.

Oda M. Yasser AL-Zamely et al /International Journal of PharmTech Research, 2016,9(8),pp 385-390.

\*\*\*\*\*