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Inhibition study of the partially purified Paraoxonase in the sera of normal and ectopic pregnancy women

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The most common complication of early pregnancy is ectopic pregnancy (EP). These complications are clinical conditions where biomarkers are urgently needed to improve early diagnosis and where discovery studies must be conducted using human specimens due to the lack of a good experimental model system. Decreased *Paraoxonase* (PON) activity and increased LOOH levels may play a role in the pathogenesis through increased susceptibility to lipid peroxidation in women with early pregnancy failure .The present study determines the in vitro inhibitory effect of two compounds [methotrexate and 4,5-diphenyl-1,2,4-triazole-2-thione-2-mercapto Zinc(II)] using different concentrations (0.5, 0.75, 1, 1.25, 1.5, 1.75) mM on (crude and partially purified) human serum PON activity and comparing there IC₅₀ values. *Paraoxonase* activity was determined in (normal and ectopic) pregnancies using paraoxon as a substrate. The results indicated that these compounds were effective inhibitors for PON. The kinetics of interaction of the above compounds on the partially purified enzyme indicated different inhibition pattern. To determine the kinetic constants values, two inhibition concentrations (maximum and minimum) were tested for each sample. Results were obtained from Lineweaver-Burk plot; the activity without inhibitor was compared with the activity in the presence of inhibitor for both (ectopic and normal) pregnancy. Lineweaver-Burk graph showed that the above compounds inhibit PON by different types of inhibition with different values of Ki.

Biography

Israa Zainal is currently an Assistant Professor in Kirkuk University, Iraq. She has obtained her MSc and PhD degree in the field of Biochemistry in the Baghdad University, Iraq.

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