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## Differential Effect of Glutathione Depletion on Glycogenolysis in Isolated Rat Hepatocytes Mediated by $\alpha$ -Adrenoceptor Agonists and Glucagon

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**Abstract:** Glutathione (GSH) exerts a variety of cytoprotective effects, but is readily depleted from cells under a variety of stressful stimuli. The impact of GSH depletion on receptor-mediated activity in rat hepatocytes has been studied with regard to glycogenolysis stimulated with  $\alpha$ -adrenoceptor agonists or glucagon, which exert their actions through different signalling pathways. Depletion of GSH content (70%) by diethyl maleate had no effect on the redox status of the cells or on basal or glucagon-stimulated glycogenolysis, but significantly reduced the response to the  $\alpha$ -adrenoceptor agonists adrenalin and phenylephrine. These results highlight the possible modulatory effects of GSH on receptor-mediated activity in hepatocytes.

**Key Words:**  $\alpha$ -adrenoceptors, glucagon, glutathione, glycogenolysis, hepatocytes receptors

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