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Protective effect of the novel antioxidant U-83836E against ischemia/reperfusion induced brain injury in rats

Anna Bielawska, Krzysztof Bielawski, Ryszard Farbiszewski

The effect of novel antioxidant U-83836E on the activities of superoxide dismutase (SOD), glutathione peroxidase (GSH-Px) and glutathione reductase (GSH-R) and the concentration of thiobarbituric acid-reactive substances (TBA-rs) content and free and total sulfhydryl compounds in rat brains following 30 min of ischemia or 60 min ischemia/reperfusion were examined. In ischemia the activities of the three enzymes studied were unchanged, and after ischemia/reperfusion the SOD, GSH-Px, GSH-R activities and SH groups were significantly reduced, while TBA-rs were increased significantly. Infusion of U-83836E did not reverse the decrease of SOD and GSH-Px but it restored GSH-R, TBA-rs and free and total SH groups to normal values. Cerebroprotective effect of U-83836E consisting in the inhibition of lipid peroxidation processes in ischemia/reperfusion induced brain injury has been suggested.