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The Oxidative Damage Marker for Sodium Formate Exposure on Lymphocytes

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Abstract : Sodium formate is the chemical substance used for food additive. Catalase is the important antioxidative enzyme in protecting the cell from oxidative damage by reactive oxygen species (ROS). The resultant level of oxidative stress in sodium formatetreated lymphocytes was investigated. The sodium formate concentrations of 0.05, 0.1, 0.2, 0.4 and 0.6 mg/mL were treated in human lymphocytes for 12 hours. After 12 treated hours, catalase activity change was measured in sodium formate-treated lymphocytes. The results showed that the sodium formate concentrations of 0.4 and 0.6 mg/mL significantly decreased catalase activities in lymphocytes ($P < 0.05$). The change of catalase activity in sodium formate-treated lymphocytes may be the oxidative damage marker for detect sodium formate exposure in human.

Keywords : sodium formate, catalase activity, oxidative damage marker, toxicity
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