Anticancer activity of *Solanum nigrum* extract on cancer bearing ICR mouse and L1210 cancer cells and the reaction mechanism

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Abstract — The current investigation was undertaken to explore the anticancer activity of the methanol extract of *Solanum nigrum* and the underlying mechanism in relation with antioxidant enzymes. When the methanol extract of *Solanum nigrum* (1mg/10μl/20g body weight) was injected peritoneally to ICR mouse with Sarcoma 180 abdominal cancer, the life span was prolonged up to 38.4%. Results concerning the anticancer activity of *Solanum nigrum* against L1210 cells showed the best cytotoxic effect of 83.4% in 120μg/ml concentration and 3 days of culture period. When the antioxidant enzymes activities were measured to get an insight into the reaction mechanism underlying the anticancer activity, remarkably increased activities of SOD and GPx of L1210 cells in the presence of methanol extract of *Solanum nigrum* implied that the reactive oxygen species (ROS) derived from O$_2^-$ ion, may have taken part in the death process of L1210 cells.

**Keyword**  □ *Solanum nigrum*, anticancer activity, Sarcoma 180 ICR mouse, L1210 cells, SOD, GPx