

*Original article*

# **Effect of Biolex Beta-HP on phagocytic activity and oxidative metabolism of peripheral blood granulocytes and monocytes in rats intoxicated by cyclophosphamide**

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## **Abstract**

The objective of this study was to determine the effect of  $\beta$ -1,3/1,6-D-glucan (Biolex-Beta HP) on the phagocytic activity and oxidative metabolism of peripheral blood granulocytes and monocytes in rats intoxicated by cyclophosphamide. The experimental material comprised 40 adult Wistar rats aged 14 weeks, divided into two equal groups, a control group and an experimental group, each of 20 adult rats, including 10 males and 10 females. In the course of 3 successive days, 20 rats from the experimental group were administered cyclophosphamide intramuscularly at a dose of 50 mg/kg body weight/day. On the 8<sup>th</sup> day of the experiment, 10 control group (K) rats and 10 experimental group (C) rats were sacrificed. Arterial blood samples were collected and diluted with heparin to determine and compare the phagocytic activity (Phatogest) and oxidative metabolism (Bursttest) of peripheral blood granulocytes and monocytes by flow cytometry. Starting on the 8<sup>th</sup> day of the experiment, the feed of the remaining 10 rats from the experimental group (C+G) and 10 rats from the control group (G) was supplemented with Biolex-Beta HP at a dose of 50 mg/kg body weight/day for 14 consecutive days. On day 22, arterial blood samples were collected from all (C+G) and (C) group rats, diluted with heparin to determine and compare the phagocytic activity and oxidative metabolism of peripheral blood granulocytes and monocytes by flow cytometry. The results showed that Biolex-Beta HP modulated the phagocytic activity and oxidative metabolism of blood neutrophils and monocytes suppressed by cyclophosphamide in rats. The immunorestoring activity of Biolex-Beta HP was observed in this study.

**Key words:**  $\beta$ -1,3/1,6-D-glucan, cyclophosphamide, rats, phagocytic activity and oxidative metabolism of granulocytes and monocytes, flow cytometry