

TABLE 2. Effects of Compounds Ia and Ib on the E-Rosette Formation Reaction of Leukocytes in the Blood of Healthy Donors (HD) and Bronchial Asthma (BA) patients

Compound	Phagocytic activity, %		Sensitive leukocytes, %		Stimulation index, %	
	HD	BA	HD	BA	HD	BA
Control	80.4 ± 3.5	76.7 ± 1.1	—	—	—	—
Ia	89.1 ± 2.9*	75.4 ± 2.5	8.7 ± 1.1	1.0 ± 1.7	11.5 ± 9.7	1.4 ± 2.2
Ib	88.4 ± 2.3*	87.9 ± 1.0*	8.0 ± 1.5	11.1 ± 0.6	11.0 ± 2.8	14.5 ± 0.9

* $p < 0.05$ relative to control.**TABLE 3.** Effects of Compounds Ia and Ib on the Phagocytic Activity of Leukocytes in the Blood of Healthy Donors (HD) and Bronchial Asthma (BA) patients

Compound	Phagocytic activity, %		Sensitive leukocytes, %		Stimulation index, %	
	HD	BA	HD	BA	HD	BA
Control	81.5 ± 1.1	72.6 ± 2.5	—	—	—	—
Ia	92.3 ± 1.0*	77.4 ± 2.6*	10.8 ± 1.1	4.8 ± 1.1	13.4 ± 1.5	6.6 ± 1.5
Ib	93.3 ± 0.6*	82.0 ± 2.5*	11.8 ± 0.7	9.4 ± 0.4	14.5 ± 1.0	12.9 ± 0.7

* $p < 0.05$ relative to control.

and Ib or with a buffered (pH 7.2) physiological solution (control).

The results of tests were expressed as the relative numbers of rosette-forming lymphocytes and phagocytic leukocytes in the test (T) tubes with respect to the control (C) tubes. These values were used to calculate the percentage of sensitive cells $(T - C)$ and the stimulation index $100 \times (T - C)/K$ of the blood cells.

RESULTS AND DISCUSSION

It was found that compounds Ia and Ib at a concentration of 1×10^{-5} or 1×10^{-7} M exhibited no pronounced cytotoxic effect. At the same time, compound Ib taken at a concentration of 1×10^{-3} M produced a 100% loss of the cells, which was related to the strong acidity of the solution (pH 1.26).

Preliminary tests showed that compound Ia exhibited the most pronounced action with respect to the E-RF reaction and

PAL manifestations at a concentration of 1×10^{-7} M, and compound Ib at 1×10^{-5} M. The subsequent experiments were conducted with these very concentrations

It was established that compounds Ia and Ib equally stimulated the E-RF reaction and PAL manifestations in the blood of both healthy donors and bronchial asthma patients (Table 2 and 3).

On the background of reduced E-RF ability and PAL observed for the bronchial asthma patients (compared to the healthy donors), the preincubation with compound Ia further decreases the content of E-rosette forming cells, whereas compound Ib stimulates the blood lymphocytes with respect to the E-RF reaction.

Study of the effect of compounds Ia and Ib on the PAL manifestations in the bronchial asthma patients showed that both compounds stimulate the absorption of polystyrene latex by leukocytes, as evidenced by an increase both in the content of active cells and in the stimulation index.

Thus, we have established that compounds Ia and Ib exhibit pronounced immunomodulating activity *in vitro* with respect to the blood cells of both healthy donors and bronchial asthma patients. Taking into account the low cytotoxicity of these compounds, we may expect promising results from further investigations of the specific effects of aromatic sulfoacid azolides under conditions of the whole organism.

REFERENCES

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