

PROTECTIVE PROPERTIES OF IMMUNE TISSUES
(SHORT COMMUNICATION)

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Specific activity of the immune cells of various tissues, notably lymphoid cells, plays an important role in immunity to viruses and bacteria, and in transplantation and antitumor immunity.

The nature of the specific activity factor of immune tissues has not yet been established. Many attempts to isolate "cell antibodies" have given conflicting or, more often, negative results.

For this purpose we use the technique of disintegrating immune cells by ultrasound in an atmosphere of nitrogen in the cold. In this way, a factor possessing antipasteurellosis activity, preventing death of a proportion of mice infected with 1 MLD of avian pasteurellas, was isolated from the tissues of mice and rats immunized with a culture of these organisms. The most active extracts were obtained from spleen and lung tissues (80-90% of surviving mice), followed by extracts of liver, muscle, and brain. Sera of the immune animals were inactive, as also were extracts of tissues of nonimmune animals.

A factor inhibiting growth of Ehrlich's carcinoma and Crocker's sarcoma in mice was isolated from the spleen and lymph glands of mice and rats immunized with cells of these tumors, but could not be isolated from other tissues or blood serum.

A factor accelerating rejection of a skin graft taken from line A mice and given to line C57 mice was obtained from lymph gland and spleen cells of C57 mice and rats immunized with epidermal cells of line A mice. Extracts from the other tissues and serum possessed no such action.

The specific activity factor of immune cells does not consist of complement-fixing, precipitating, or "cytophilic" antibodies.

High-polymer DNA and RNA isolated from active extracts by the phenol deproteinization method do not possess the original activity of the extract. The extract is inactivated at room temperature after 24 h, in a refrigerator on the 5th day, and at 80° after 20 min, and it is also inactivated by a change in pH to 6-8.

Extract from immune tissues of animals immunized against pasteurellosis contains pasteurella antigen which can be detected by radioactive labeling, and also contains inhibitors of the extracellular nucleases of the pasteurella. The role of these factors in the specific activity of the extracts is not clear.

The specific activity factor is partially precipitated by ammonium sulfate along with the cell nucleases.

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