МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
ЗАПОРІЗЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

НАУКОВЕ ТОВАРИСТВО СТУДЕНТІВ, АСПІРАНТІВ, ДОКТОРАНТІВ І МОЛОДИХ ВЧЕНИХ

ЗБІРНИК ТЕЗ ДОПОВІДЕЙ

ВСЕУКРАЇНСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ СТУДЕНТІВ ТА МОЛОДИХ ВЧЕНИХ

«ДОСЯГНЕННЯ СУЧАСНОЇ МЕДИЧНОЇ ТА ФАРМАЦЕВТИЧНОЇ НАУКИ – 2022»

4 лютого 2022 року

ЗАПОРІЖЖЯ – 2022

ОРГКОМІТЕТ КОНФЕРЕНЦІЇ:

ГОЛОВА ОРГКОМІТЕТУ:
ректор ЗДМУ, Заслужений діяч науки і техніки України, проф. Колесник Ю.М.

ЗАСТУПНИКИ ГОЛОВИ:
проректор з наукової роботи, Заслужений діяч науки і техніки України, проф. Туманський В.О.;
голова Координаційної ради з наукової роботи студентів, проф. Бєленічев І.Ф.;
голова наукового товариства студентів, аспірантів, докторантів і молодих вчених, проф. Павлов С.В.;
секретар Координаційної ради з наукової роботи студентів, ст. викл. Абросімов Ю.Ю.;
голова студентської ради ЗДМУ Федоров А.І.

ЧЛЕНИ ОРГКОМІТЕТУ:
заступник голови студентської ради Будагов Р.І.; голова навчально-наукового сектору студентської ради Єложенко І.Л.

CAN BE ANTI-HUMAN MONOCLONAL ANTIBODY CD3 USED AS PAN T-CELL MARKER IN THE OVALBUMIN-SENSITIZED GUINEA PIGS?

Popko S.S., Aksamytieva M.V.
Scientific supervisor: prof. Evtushenko V.M.
Department of Histology, Cytology, Embryology
Zaporizhzhia State Medical University

Background. When modeling allergic inflammation of the human respiratory tract, it becomes important to select the species of animals that are similar to humans. The guinea pig possesses a number of unique peculiarities making it suitable as an animal species for preclinical studies related to allergic inflammation. Nevertheless, research in guinea pigs is still limited due to the lack of guinea pig-specific reagents. The availability of reagents and special instruments suitable for research in guinea pigs, especially when compared to humans and more traditional laboratory animals such as mice and rats, is limited. A number of reports have been published on cross-reactive mAb, which have been submitted to cluster of differentiation workshops for human cells and were simultaneously tested for reactivity with other species. Based on these data, we hypothesized that mAb a-Hu CD3 antigen can be also specific for activated T-lymphocytes in guinea pigs.

Materials and methods. We have studied the distribution and quantitative changes of CD3-positive lymphocytes in trachea and lung of 48 male guinea pigs using histological, immunohistochemical, morphometric and statistical methods in conditions of experimental allergic inflammatory process.

Results. We have demonstrated a statistically significant elevation ($p^{*/**}<0.001$) of the number of CD3-positive lymphocytes in pulmonary interstitium from the 30th day of the experiment. In the late manifestation of allergic inflammatory process in the guinea pigs' lung a statistically significant elevation compared to the control group ($p^{*/**}<0.001$) and the experimental group II ($p^{*/**}<0.01$) appeared in the experimental group III. It was by 2.6 times more than in the control group and by 1.5 times more than in the

experimental group II. On the 44th day of observation, there is a tendency for the insubstantial descent of the number of CD3-positive lymphocytes, compared with the previous observation period, but it is by 2.4 times more than in the control group ($p^{*/**}<0.001$). It was shown that elevation of the number of CD3 positive lymphocytes persists even after the end of the action of the allergen, indicated the continuation of the reaction of pulmonary local adaptive immunity to the allergen

Conclusions. The results of our study may be useful in conditions of the lack of guinea pig-specific reagents. The immunohistochemical assessment of guinea pigs' trachea and lungs proved the possibility to use anti-Human monoclonal antibody CD3 as a panT-cell marker in guinea pigs. We demonstrated the activation of adaptive immune response (T-cells), represented by their immunohistochemical changes, predominantly in the late stages of allergic inflammatory process.