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Lectin receptor interactions in rat lungs structural components on the background of experimental hypothyroidism

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The experimental studies involved 20 sexually mature male rats 180-200 g. weight including 10 control and 10 with experimental hypothyroidism induced by the introduction of the food thyreostatic drug merkazolilum at a dose of 5 mg/kg body weight for 30 days. Histological material was fixed in 4% neutral formalin. Overview slides 5-7 μ m thick were stained by hematoxylin and eosin. Glycoconjugates of the lungs structural components were studied using method of lectin-peroxidase technique. The set of lectins labeled by horseradish peroxidase included: Concanavalin A (ConA, α DMan specific), peanut lectin (PNA specific for β DGal (β 1-3) DGalNAc), soybean (SBA, specific for a DGalNAc), wheat germ (WGA, specific for DGlcNAc, NeuNAc), elderberry bark (SNA, specific for Neu5Ac (α 2-6)Gal/DGalNAc), crust of golden rain (LABA, specific for α LFuc). It has been shown, that experimental hypothyroidism is associated with perivascular edema and lectin receptors modification in the lungs structural components, induced the immune processes activation that resulted in increased number of the SBA-positive alveolar macrophages and BALT-associated LABA positive dendritic cells. Lectin SBA (specific for a DGalNAc) may be considered as one of markers of alveolar macrophages, lectin LABA (specific for α LFuc) as a marker of BALT-associated dendritic cells.

Biography

Antonina Yashchenko has got her Doctoral Degree in 2004. She is a Professor at Histology Department in Danylo Halytsky Lviv National Medical University. She is working at the department for more than 30 years. She has published more than 100 papers in Ukrainian and International journals. Her scientific field of interest include Lectin and immunohistochemical analysis of carbohydrate determinants in normal and pathologically changed cells and tissues.

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