Elena Aleksandrovna Kotenkova et al., J Clin Cell Immunol 2016, 7:3(Suppl)
http://dx.doi.org/10.4172/2155-9899.C1.028

Natural tissue-specific proteins and peptides stimulate innate immunity in experimental immunodeficiency

Elena Aleksandrovna Kotenkova, Lilia V Fedulova and **Ekaterina R Vasilevskaya**
The Gorbatov's All-Russian Meat Research Institute, Russia
This work was supported by the Russian Science Foundation, project No 15-16-00008

Tissue specific proteins and peptides were extracted from *Sus scrofa* thymus, spleen and lymph nodes (TSL) by physiological saline on distilled water (DW) and deuterium depleted water (DDW). Study of TSL+DW and TSL+DDW was carried out on Wistar rats with cytostatic induced immunodeficiency model. Animals were randomly divided in 4 Groups: Group-1: Intact (n=10); Group-2: Treated with DW (n=10), Group-3: Treated with TSL+DW (n=10), Group-4: Treated with TSL+DDW (n=10). Lymphocytes and monocytes counts in Group-2: Decreased by 31.9% ($p<0.05$) and 40.4% ($p<0.05$) compared with Group-1 while granulocytes count increased by 48.3% ($p<0.05$). Lymphocytes and monocytes counts in Group-3 and Group-4 increased by 21.7% ($p<0.05$) and 38.1% ($p<0.05$), 24.8% ($p<0.05$) and 14.3% ($p<0.05$) compared with Group-2 while granulocytes count decreased by 20.2% ($p<0.05$) and 25.4% ($p<0.05$). CD4 count in Group-2 decreased by 49.1% ($p<0.05$) compared with Group-1 while CD3 count increased by 19.0% ($p<0.05$). CD3/CD4 index was 2.69, which was higher in intact animals more than 2 times. CD4 in Group-3 increased by 67.4% ($p<0.05$) compared with Group-2 while CD3 was higher Group-2 by 32.7% ($p<0.05$). CD3/CD4 index was 2.13, that was lower Group-2 by 20.8% ($p<0.05$). CD4 in Group-4 did not increase while CD3 was higher in Group-2 by 18.5% ($p<0.05$). CD3/CD4 index was 3.10, that was higher in Group-2 by 15.2% ($p<0.05$). Revealed data confirmed TSL influence on immunity. Pathways activation depended on solubilizing agent. Presumably, TSL+DDW may stimulate both B-cells and T-cells differentiation while TSL+DW primary stimulate CD3 and CD4 T-lymphocytes differentiation.

Biography

Elena Aleksandrovna Kotenkova has completed her PhD from VNIIMP and published more than 35 papers. She is a Biochemist in Experimental Clinical Research Laboratory.

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