

since it was dramatically suppressed by atropine (effect was observed both *in vitro* and *in vivo*).

**Conclusion:** calcium release from ER *via*  $\text{InsP}_3$ -sensitive channels is the main mechanism of the saliva stimulation underlying m-cholinoreceptors regulation of submandibular cells functioning.

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## P1.29

### PKD2 expression and autophosphorylation in primary normal B lymphocytes and diffuse large B cell lymphomas

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Ser/Thr protein kinase PKD is a novel regulator of signaling *via* T and B cell antigen receptors and is a potential candidate for the mediator of the cross-talk between different signaling cascades. Evaluation of PKD2 expression and its activity in lymphoid malignancies will help to clarify the place of this enzyme in signaling cascades in normal and tumor cells. The aim of our work was to find correlations between expression of autophosphorylated PKD2 (pPKD2) and expression of PKC $\beta$  which is an independent predictor for poor prognosis of diffuse large B cell lymphomas (DLBCL). PKD2 and PKC $\beta$  expression were studied in paraffin tissues sections of tonsils, reactive lymph nodes and tumor samples of DLBCL. The pPKD2 was observed in the germinal centers with maximal level in light zones. Majority of lymphocytes in the mantle of lymphoid follicles were pPKD2-negative, moreover, in these cells PKD2 were localized in cytoplasm. At the same time, in germinal center cells PKD2 was localized both in nuclei and cytoplasm. All studied DLBCL samples demonstrated presence of pPKD2 in tumor cells, however, according to the level of pPKD2 and intracellular localization, these lymphomas were subdivided in three groups. The first group was characterized by low level of pPKD2 localized mainly in the cytoplasm of tumor cells, and was PKC $\beta$  negative. In the second group the moderate level of pPKD2 in the cytoplasm was accompanied by low level of PKC $\beta$  expression. Third group was characterized by high level of pPKD2 expression both in the cytoplasm and nuclei, and high level of PKC $\beta$  expression. Thus, our data clearly demonstrate the correlation between PKC $\beta$  expression and PKD2 autophosphorylation in DLBCL. Since PKD2 is a downstream target of PKCs in B lymphocytes, the high level of PKD2 autophosphorylation/activation in DLBCL may be a consequence of PKC $\beta$  overexpression.

## P1.30

### The participation of cAMP-dependent protein kinase A and protein kinase C in NAE effects

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N-acylethanolamines (NAE) are the minor lipid components of several tissues. NAE manifest a number of effects in peripheral cells: changing of hormone secretion, action upon stability of membranes, modifying of transmembrane ion transport etc. Taking into consideration that NAE presumably act *via* specific receptors and it seems to be reasonable to study effects of NAE upon main cellular messenger systems. We studied of the new link of the biological activity of the N-acylethanolamines — of their participation in the regulation of the adrenal cortex function. In our previous work activation of the cholesterol incorporation into aldosterone and corticosterone by rat adrenal slices was established in the *in vitro* investigation. It was found that dopamine, which is known as endogenous aldosteroidogenesis inhibitor, in the presence of the NAE did not inhibit steroidogenesis in adrenocortical cells. Analysis of the mechanisms of realization of NAE effects in human adrenal cortex was carried out *in vitro*. We investigated the concentration of cAMP and cGMP in conditionally normal tissues of adrenals from patients with adrenocortical hyperplasia (Cushing's syndrome), adenoma, aldosteroma and adrenocarcinoma. Slices of adrenal cortex were incubated in the presence or absence of N-acylethanolamines (1, 10, 100  $\mu\text{M}$ ) 2 h. cAMP and cGMP concentration was measured with a Amersham radioimmunoassay kits TRK-432 and TRK-500, respectively. N-acylethanolamines treatment at highest concentration resulted in a 2.3-fold decrease of cyclic AMP level in adrenal cortex. cGMP level is not changed on these conditions. Activity of cAMP-dependent protein kinase A significantly decreased in cytosol fraction, protein kinase C activity enhanced in membrane fraction of adrenocorticocytes after NAE treatment. The obtained results suggest a possible role of cAMP, protein kinases A and C in mediating of N-acylethanolamines regulatory signal in human adrenal cortex.

## P1.31

### Pathways of melanin cytoprotective action on gastric mucosa

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It is well known that melanin, as well as many others natural polyphenols, protect gastric mucosa (GM) from injuries evoked by stress, serotonin, aspirine, etc. However, the exact mechanisms responsible for this phenomenon are still poorly understood. The aim of the present study was to investigate the mechanism of cytoprotective action of melanin. Therefore, we estimate the effect of melanin on the expression of constitutive NO synthase (eNOS) in GM and NO level in the blood, as well as the role of Peroxisome-Proliferator-Activated Receptor  $\gamma$  (PPAR $\gamma$ ) in melanin cytoprotection. The investigation was carried out on white rats, males. The damages of GM are induced by combination of cold (for 2 h) and immobilization stress (for 24