

## SHORT COMMUNICATION

### PITUITARY ADENYLATE CYCLASE-ACTIVATING POLYPEPTIDE (PACAP)-EVOKED INCREASE IN CYCLIC AMP PRODUCTION IN CHICK CEREBRAL CORTEX: LACK OF A ROLE OF THE PROTEIN KINASE C PATHWAY

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*Pituitary adenylate cyclase-activating polypeptide (PACAP)-evoked increase in cyclic AMP production in chick cerebral cortex: lack of a role of the protein kinase C pathway.* J.B. ZAWILSKA, P. NIEWIADOMSKI, J.Z. NOWAK. *Pol. J. Pharmacol.*, 2003, 55, 245–250.

Pituitary adenylate cyclase-activating polypeptide 38 (PACAP38) is a potent activator of cyclic AMP formation in the chick brain. The peptide also stimulates inositol phosphates accumulation and protein kinase C (PKC) activity in the chick cerebral cortex. In this work, we analyzed whether PACAP38-induced increase in cyclic AMP production in the chick cerebrum can be modified by a PKC pathway. 4 $\beta$ -Phorbol 12,13-dibutyrate (4 $\beta$ -PDB), a PKC activator, did not significantly affect the PACAP38-evoked increase in [<sup>3</sup>H]cyclic AMP production in [<sup>3</sup>H]adenine-prelabeled slices of the chick cerebral cortex. Of the tested PKC inhibitors, i.e. chelerythrine, H-7, NPC-15437 and staurosporine, only chelerythrine markedly decreased, in a concentration-dependent manner, the PACAP38-activated cyclic AMP accumulation in the chick cerebrum. These results suggest that (1) the process of cyclic AMP production stimulated by PACAP in the cerebral cortex of chick is not PKC-dependent, and that (2) chelerythrine, a widely used PKC inhibitor, influences the intracellular signaling pathway(s) associated with PACAP receptors in the chick brain in a way not involving PKC.

**Key words:** *pituitary adenylate cyclase-activating polypeptide, PACAP, chick, cerebral cortex, protein kinase C, adenylyl cyclase, PDB, chelerythrine, H-7, NPC-15437, staurosporine*

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