

## MORPHOLOGICAL AND FUNCIONAL POLARIZATION OF THE EMBRIONIC DEVELOPING OF NEUROEPITHELIUM IN VERTEBRATES.

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During the early stages in the formation of the Central Nervous System (CNS) in vertebrates a series of dynamic cellular events are produced at the cortical zone of the neural plate, proliferation and cellular migration, that make a important contribution to the differentiation and maturation of the CNS in adult. Cell differentiation often involves changes in cell polarity, and in neuroepithelial cells downregulate the polarized delivery to the apical-basal plasma membrane domains during development (Aaku-Saraste, 1997). Neuroepithelial cells undergo both symmetric and asymmetric division during their differentiations, and this is related to tissue polarization (Hutter and Brand, 1997). Evidence of morpho-functional relations with cell polarization are reported at different biological events involved in both events even in epithelial and neuroepithelial tissues (Davies and Garod, 1997). Large membranes proteins have a polarized distribution in different epithelium (Craig and Banker, 1994). Distribution of molecules an ions, affect the transcellular currents inducing changes in the concentration gradients of ions and in the electric fields, that influence the vectorial movement of waters, organelle and membrane proteins like Na<sup>+</sup> channel (NaCh) protein (Nuccitelli, 1983; Wiley, 1984). Making use of the immunolabeling technique at light microscopy resolution, with specific antibodies (SP19)  $\alpha$ -NaCh protein, we demonstrate its presence and localization at the neural plate of rat embryos at early stage (Sánchez, 1997). Voltage-activated NaCh have been implicated in a range of cellular activities including proliferation, migration, adhesion and cell cycle and in addition to their recognized role in neural conduction and muscle contraction. (Wonderlin and col, 1995; Kondo and col, 1995; Arcangelis and col, 1993). In pathological events, it has been demonstrated that Na<sup>+</sup>Ch protéin is expressed by malignant prostate cells which have a high metastatic ability. (Smith and col, 1998; Laniado y col, 1997). The relation between cellular polarity, morphological polarity and expression of Na<sup>+</sup> Ch at very early stage of development in vertebrate will be discussed

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