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OF BIOCHEMISTRY AND MOLECULAR BIOLOGY

# BIOCHEMISTRY OF CELL MEMBRANES



SOCIETA' ITALIANA DI BIOCHIMICA

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*Invitation*

THE EFFECT OF MINOR MEMBRANE CONSTITUENT N-ACYLETHANOLAMINE (NAE) ON SOME MEMBRANE-ASSOCIATED FUNCTIONS OF NEUROBLASTOMA C1300 N18 CELLS.

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As reported earlier (Gulaya et al Neuroscience, 30, 153-154, 1989) NAE was detected for the first time in plasma membrane of neuroblastoma cell. Later it was shown that [ $^{14}$ C]-NAE added to cell culture medium is easily incorporated into neuroblastoma cell plasma membrane. The neuroblastoma cells had enzyme systems which catalyse the hydrolysis of NAE. However after one hour incubation approximately 30% of NAE remained unchanged in the plasma membrane and can affect membrane function. NAE-14:0, NAE-16:0 and NAE-18:0 being added to culture medium of neuroblastoma cells in a concentration of  $5 \times 10^{-7}$  mol/L simultaneously with veratridine partly prevented activation of fast sodium channels by veratridine. The effects of NAE with different acyl chains were not equal. NAE-16:0 in concentrations  $5 \times 10^{-6}$  and  $5 \times 10^{-5}$  mol/L decreased ion transport to the level lower than the basal one. This observation showed that NAE can also affect basal cation transport independently from a cation transport through ion channel. The effects of NAE on cation transport in the presence and in the absence of veratridine were different. NAE also prevented accumulation of lysophosphatidylcholine and lysophosphatidylethanolamine in plasma membrane caused by veratridine.

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