Expression of pS2 Gene in Human Breast Cancer Cell Line MCF-7 is Controlled by Retinoic Acid.

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The pS2 gene is one whose expression is rapidly and makedly increased by the administration of estradiol in MCF-7 cells, an established human breast cancer cell line derived from a pleural effusion from breast cancer patients. MCF-7 cells have been demonstrated to contain significant amounts of estrogen receptors, and pS2 gene codes for a protein of 84 amino acids, but its physiological function is yet unknown. We established a simplified method for the quantitative measurement of pS2 mRNA using the reverse transcriptase-polymerase chain reaction method. Expression of the pS2 gene, which is transcriptionally induced by estrogen in breast cancer cell line MCF-7 cells, can be repressed by retinoic acid in unstimulated cells.

Neurotoxin-Binding Activity in the Supernatant Fraction of the Electric Organ from Torpedo Californica.

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We found that neurotoxin-binding activities in the supernatant fraction obtained by ultracentrifugation of a homogenate of the electric organ dissected from the electric ray, Torpedo californica. While about half of the electric organ dissected from the electric ray, Torpedo californica. While about half of the activity was estimated as due to acetylcholine receptors in dispersed microparticles, the remainder was unassigned. A part of the latter, detected with a-bungarotoxin, eluted ahead of a-bungarotoxin-acetylcholine receptor complex on a Sepharose CL-6B column in the presence of 1% Triton X-100. Another component eluted after this complex. Although these activities were immunologically related to AChR, they were different from AChR in their size and reactivity with concanavalin A.

Crosslinking of Protein in Acetylcholine Receptor-Rich Membranes from Torpedo Californica: Relation of 43-kD Protein and Torpedo dystrophin to Acetylcholine Receptor.

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We examined the spatial relation of 43-kD protein and Torpedo dystrophin, which are cytoplasmic peripheral membrane proteins in the nicotinic acetylcholine receptor (AChR)-rich membranes, to AChR. We used three kinds of the heterobifunctional crosslinking reagents to crosslink proteins in the AChR-rich membranes. As a results, Torpedo dystrophin was crosslinked at the same concentrations as were effective for the 43-kD protein and r subunit. On the basis of these results, we concluded that the 43-kD protein is intimately associated with the r subunit of AChR and Torpedo dystrophin.