〔FEBS Lett., **198**, 33 (1986)〕

Interleukin 2 induces rapid phosphorylation of cellular proteins in murine T-lymphocytes.

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When quiescent murine T-lymphocyte cells were stimulated by the addition of interleukin 2 (IL-2), they reinitiated DNA synthesis aftar a lag period of 5 h. Under these conditions, rapid but transient phosphorylation of two cellular proteins with Mr values of 27,000 and 26,000 was detected ; maximal phosphorylation occured within 10-15 min after the addition of IL-2. The protein of Mr 27,000 contained phosphoserine, while the protein of Mr 26,000 contained phosphothreonine.

〔Biochem. J., **238**, 451 (1986)〕

α-Thrombin-induced tyrosine phosphorylation of 43000- and 41000-Mr proteins is independent of cytoplasmic alkalinization in quiescent fibroblasts.

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Incubation of quiescent Chinese hamster fibroblasts (CCL39) with α-thrombin was found to stimulate the rapid phosphorylation of two 43000-Mr and two 41000-Mr proteins at tyrosine, threonine and/or serine and two 63000-Mr proteins at serine. We analysed α-thrombin-induced protein phosphorylation at different external pH values in CCL39 and in the mutant derivative PS120, which lacks Na^+/H^+-antiporter activity. We showed that cytoplasmic alkalinization, a common and early response to mitogens, is not required to trigger phosphorylation of 63000-, 43000- and 41000-Mr proteins, either at tyrosine or serine and threonine residues.

〔Eur. J. Biochem., **157**, 233 (1986)〕

Carbohydrate Structere of Acetylcholine Receptor from *Torpedo californica* and Distribution of Oligosaccharides among the Subunits.

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The structure of carbohydrates in acetylcholine receptor (AChR) was determined. More than 70% of the total oligosaccharide chains in *Torpedo* AChR are of the high-mannose type with the structures $(Man)_8(GlcNAc)_2$ and $(Man)_9(GlcNAc)_2$. These two types of oligosaccharides were distributed in different proportions in all subunits of *Torpedo* AChR. Several kinds of complex-type oligosaccharides comprising the rest of the carbohydrate in the protein exist mainly in the γ and δ subunits. The structure of the carbohydrate moiety ditributed on the four subunits of AChR was also examined by susceptibility to glycosidases and by binding affinity to lectins.