

Acylation of proteins – Acylacja białek

Henryk Witas

Recently it was found a number of proteins from enveloped viruses as well as from bacteria, plant and animal cells to contain small amount of bound lipids. The lipids are represented mainly by long-chain fatty acids which appear to be linked covalently with the protein. The ester bond is believed to occur as a main one between fatty acid, the most frequently palmitate, and OH group of hydroxy-amino acid or SH group of cysteine of polypeptides localized in the membranes. The amide bond is the second type found between nonglycosylated polypeptides mainly their N-glycine and myristate. The Golgi apparatus intracellular membranes or rough endoplasmic reticulum are suggested to be among possible regions of polypeptide acylation. Also cellular membrane as a place of acyltransferase action is not excluded. First attempt of isolation and specificity characterization was made. It is not known the precise biological role of acylation process. However, suggestions appeared that acylation could be involved in recognition process, intracellular transport of membrane proteins, insertion and anchorage of them to the membrane or transport of secretory proteins.