**Abstract**

Posttranslational modifications of proteins are a widespread mechanisms used by both prokaryotic and eukaryotic cells for increase the diversity of the proteome by the addition of functional groups, proteins, proteolytic cleavage of regulatory subunits, or degradation of entire proteins. These modifications include for example phosphorylation, glycosylation, acetylation, lipidation, ubiquitination or proteolysis and affect almost all aspects of cell biology and pathogenesis. Toxins produced by microorganisms are important virulence factors. Many of these bacterial toxins use posttranslational modification for their activation, as for example listeriolysin O, toxins of *Bacillus anthracis* or clostridial toxins. Large group of bacterial toxins activated by fatty acid are RTX (from Repeats-in-ToXin) toxins of Gram-negative pathogens, including *Bordetella pertussis* adenylate cyclase toxin or α-hemolysin secreted by uropathogenic *Escherichia coli*.