

Physico-Chemical Procedures for the Characterization of Vaccines

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This volume brings together recent developments in the field of physico-chemical procedures and provides a perspective of the contribution that this methodology can make to facilitate the production and quality control of bacterial and viral vaccines. A growing number of vaccines today is based on well-defined materials, including vaccines based on purified protein antigens of natural origin or produced by rDNA technology, polysaccharides, semi-synthetic poly- or oligosaccharide-protein conjugates and novel nucleic acid constructs. Although in principle much better defined than 'traditional' vaccines, these new products raise new challenges of their own. The realization that biological assays often show limitations in characterizing these vaccines together with mounting social and political pressures to move away from test methods using live animals have shifted interest to methods providing a precise and objective means of characterization at the molecular level as an effective alternative. The growing sophistication of many procedures for physico-chemical analysis has made their application to biological materials a workable reality.

This volume contains contributions describing the application of all the principal methods currently in use for evaluating carbohydrate, lipopolysaccharide, lipid, protein, glycoprotein, and lipoprotein components of vaccines, whether produced by conventional methods or recombinant technology. It is clear from the information presented that this approach is gaining momentum and that we are seeing only the beginning of its impact in the field of vaccines and vaccinology.

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