

Dangi AA, Sheth NR, Sodha HH, Joshi PC, Bhalodiya DS, Panchal AC, Ramanuj PR. Formulation and development of vaccines and their selection for next generation. *Bull. Pharm. Res.* 2011;1(3):49-62.

Abstract: The goal of advancement in vaccine formulation is to generate a strong immune response to the administered antigens. To achieve this objective with vaccines based on insufficiently immunogenic antigens, adjuvant and other formulation materials are alternatives. Vaccines contain various types of additives, excipients, antigen and adjuvants which in combination provide maximum protection against various types of infectious diseases. Vaccine contains various types of live or killed viruses, inactivated bacterial toxin and polysaccharides. Selection of excipients and adjuvants is a serious task having an implication towards safety, stability and storage of vaccine. Preservatives are used in vaccines to prevent microbial growth. Stabilizers are required in vaccine formulation to keep the vaccine homogenous and stop the components separating. Surfactants or emulsifiers are very important to alter the surface tension of a liquid. Animal products are commonly used in formulation of vaccines and are necessary for growing the vaccine pathogens. Moreover, new vaccine modalities such as DNA vaccines and multiple vaccines are currently being explored for future scope. Novel delivery technologies will be essential component for next generation vaccines.

Key words: Adjuvant, Stabilizer, Animal product, DNA vaccine, Multiple vaccine.

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