

Non-Immunogenic Components of Vaccines

Adjuvants:

- Any substance added to a vaccine to enhance the immune response by degree or duration making it possible to reduce the amount of antigen per dose or the total number of doses needed to achieve immunity.
- The only adjuvants used in vaccines in Canada are aluminum salts (e.g., aluminum hydroxide, aluminum phosphate, or potassium aluminum sulfate).
- Adjuvants containing aluminum are found in many vaccines, including INFANRIX hexa®, PEDIACEL®, PREVNAR®, and ADACEL®.

Preservatives:

- Chemicals added to multi-dose, killed, or subunit vaccines to prevent serious secondary infections as a result of bacterial or fungal contamination of the vaccine. [e.g., thimerosal (found only in some influenza vaccines and adult preparations of hepatitis B vaccine); 2 phenoxyethanol in PEDIACEL®; phenol in PNEUMO-23®].

Antibiotics: ^A

- To prevent contamination during viral cell culture (e.g., neomycin in MMR II®; polymyxin B in Tdap).

Egg/yeast proteins, glycerol, serum, amino acids, and enzymes: ^A

- Needed for growth of viruses.

Formaldehyde: ^A

- To inactivate viruses and protein toxins (e.g., in PEDIACEL®, Td, IPV). The amount of formaldehyde remaining in a vaccine after the completion of the manufacturing process is less than that found naturally (continually present in the blood, or turned over in a day) in the human body.

Stabilizers:

- To help protect the vaccine during the manufacturing process i.e., to control acidity (pH); stabilize antigens through necessary steps in the manufacturing process; and prevent antigens from sticking to the sides of glass vials (e.g., gelatin in MMR II®, Polysorbate 20 and 80 in INFANRIX hexa®, potassium or sodium salts, lactose, human serum albumin, and a variety of animal proteins such as gelatin and bovine serum albumin).

^A Most of these reagents are removed during the manufacturing process but “minute” amounts may remain in the final product.