

Table 1: Accepted manufacturing systems and regulatory batch testing methods for 20 frequently used vaccines described in the European Pharmacopoeia version 9.8

■ = animal testing or animal use
■ = animal use or other methods
■ = no animal use

| Disease / Pathogen | Vaccine type | Produced in | Batch testing: safety | Batch testing: efficacy |
|-------------------------------|---------------------------|---|---|--|
| Diphtheria | Inactivated (toxoid) | Bacterial culture | Guinea pigs | Guinea pigs |
| Tetanus | Inactivated (toxoid) | Bacterial culture | Guinea pigs | Guinea pigs or mice |
| Whooping cough (pertussis) | Inactivated (component) | Bacterial culture | Mice, in vitro test partly possible; LAL | Guinea pigs or mice |
| | Inactivated (whole cell) | Bacterial culture | Mice; LAL | Mice |
| Meningococci | Inactivated (component) | Bacterial culture | Rabbits (pyrogen test); LAL | In vitro |
| Pneumococci | Inactivated (component) | Bacterial culture | Rabbits (pyrogen test); LAL | In vitro; partly animal testing |
| Haemophilus influenzae | Inactivated (component) | Bacterial culture | Rabbits (pyrogen test); LAL | Mice or in vitro |
| Hepatitis A | Inactivated | Human cell culture; possible components from eggs or chicks | Embryonated eggs; mice or in vitro | In vitro |
| Hepatitis B | Inactivated (recombinant) | Yeast or mammalian cells | Rabbits (pyrogen test); potentially embryonated eggs | Guinea pigs or mice, in vitro possible |
| Poliomyelitis | Inactivated | Human or animal cells | Potentially rabbit and monkey cells; LAL | Chicks, guinea pigs or rats; in vitro possible |
| | Live | Human or animal cells | Monkeys or mice - in vitro possible; rabbits, guinea pigs, potentially rabbit and monkey cells; LAL | In vitro |
| Rabies | Inactivated | Human or animal cells | Rabbits (pyrogen test); LAL | Mice; potentially in vitro possible |
| Rubella | Live | Human cells | Potentially animal testing | In vitro |
| Measles | Live | Human or animal cells | Potentially animal testing | In vitro |
| Mumps | Live | Human or animal cells or embryonated eggs | Potentially animal testing; experiments with embryonated eggs | In vitro |
| Varicella | Live | Human cells | Potentially animal testing | In vitro |
| Shingles | Live | Human cells | Potentially animal testing; LAL | In vitro |
| Rotavirus | Live | Human or animal cells | Potentially animal testing; LAL | In vitro |
| HPV (human papillomavirus) | Inactivated | Yeast or insect cells | Potentially animal testing; LAL | Mice, in vitro possible |
| Tick-Borne Encephalitis (TBE) | Inactivated | Animal cells or embryonated eggs | Rabbits (pyrogen test); mice, potentially in vitro | Mice |
| Influenza (flu) | Inactivated | Human or animal cells | Potentially animal testing or in vitro; LAL | In vitro |
| | Inactivated | Embryonated eggs | Embryonated eggs; LAL | In vitro |
| | Live | Embryonated eggs | Mice; ferrets or potentially in vitro; chick cells; LAL | In vitro |
| COVID-19 | mRNA | Synthetic, bacterial culture | In vitro, potentially LAL | In vitro |
| | Vector (chimpanzee)* | Human cells | In vitro, potentially LAL | In vitro |
| | Vector (human)** | Human cells | In vitro, potentially LAL | In vitro |

* Based on viruses infecting chimpanzees that have been isolated from chimpanzees many decades ago

** Based on human viruses