

Table 2: Information from the European Medicines Agency (EMA) on frequently used vaccines.

- = made with animal materials, in primary animal cells or embryonated eggs
- = unclear or produced in immortalised animal cells
- = no animal materials and not produced in animal systems

Diseases	Vaccine's name	Manufacturer	Animal-derived materials?	Produced in
Diphthera-Tetanus-Whooping cough-Hepatitis B-Poliomyelitis-Haemophilus influenzae Type B	Hexacima	Sanofi Pasteur	FCS (calves); cholesterol and enzymes (sheep)	bacterial culture, immortalised animal cells (monkey), yeast
	Heyxon	Sanofi Pasteur	liver, lung, heart (cattle); cow's milk; feathers (poultry)	bacterial culture, immortalised animal cell lines (monkey), yeast
	Infanrix hexa	GlaxoSmithKline	materials from cattle	bacterial culture, immortalised animal cell lines (monkey), yeast
	Vaxelis	MCM Vaccine	materials from cattle, pigs, poultry, and rabbits	bacterial culture, immortalised animal cell lines (monkey), yeast
Hepatitis B	HBVaxPro	MSD VACCINS	no data	yeast
	Fendrix	GlaxoSmithKline	cow's milk	yeast, bacterial culture
Hepatitis A and B	Twinrix (for adults and children)	GlaxoSmithKline	FCS (calves)	yeast, human cells
	Ambirix	GlaxoSmithKline	FCS (calves)	yeast, human cells
Meningococcal group B	Bexsero	GSK Vaccines	no	bacterial culture
	Trumenba	Pfizer	cow's milk, tallow	bacterial culture
Meningococcal group A, C, W and Y	Nimenrix	Pfizer	no	bacterial culture
	MenQuadfi	Sanofi Pasteur	cow's milk, meat extract, heart (cattle)	bacterial culture
	Menveo	GSK Vaccines	cow's milk	bacterial culture
Pneumococci	Prevenar 13	Pfizer	yes (not specified)	bacterial culture
	Synflorix	GlaxoSmithKline	cow's milk	bacterial culture
Measles, mumps, rubella	M-M-RVaxPro	MSD VACCINS	FCS (calves), gelatin (pigs), embryonated eggs (chickens)	primary chick cells, human cells
Measles, mumps, rubella, varicella	ProQuad	MSD VACCINS	FCS (calves), gelatin (pigs), embryonated eggs (chickens)	primary chick cells, human cells

Shingles	Shingrix	GlaxoSmithKline	enzymes (cattle and pigs), cow's milk, meat extract (cattle), gelatin (pigs), feather (poultry)	immortalised animal cell lines (hamster), bacterial culture
	Zostavax	MSD VACCINS	FCS (calves), blood serum (cattle), gelatin and enzymes (pigs)	human cells
Rotavirus	Rotarix	GlaxoSmithKline	blood serum (cattle), enzymes (pigs)	immortalised animal cell lines (monkey)
	RotaTeq	MSD VACCINS	FCS (calves), cholesterol, enzymes and others (pigs)	immortalised animal cell lines (monkey)
HPV (human papillomavirus)	Cervarix	GlaxoSmithKline	cow's milk	immortalised animal cell lines (insects)
	Gardasil	MSD VACCINS	cow's milk	yeast
	Gardasil 9	MSD VACCINS	cow's milk, feathers (poultry)	yeast
Influenza (flu)	Flucelvax Tetra 2020/2021	Seqirus Netherlands	no	immortalised animal cell lines (dog)
	Supemtek	Sanofi Pasteur	no	immortalised animal cell lines (insects)
	Fluenz Tetra 2020/2021	AstraZeneca	FCS (calves), enzymes (pigs), embryonated eggs (chicken)	embryonated eggs
	Fluad Tetra	Seqirus	squalene (sharks), embryonated eggs (chicken)	embryonated eggs
COVID-19	COVID-19 Vaccine Moderna	Moderna	no	in vitro, bacterial culture
	Comirnaty	BioNTech	cow's milk	in vitro, bacterial culture
	COVID-19 Vaccine Janssen	Janssen	cow's milk	human cells
	Vaxzevria	AstraZeneca	yes (not specified)	human cells