

# Excipients in Vaccines Not Routinely Recommended by Vaccine Type

Excipient	Purpose	Vaccine Name	Vaccine Type	Amount per 0.5 mL dose*
Acetone	Solvent	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Albumin, Human	Diluent/Stabilizer	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Albumin, Human (WI-38)	Diluent/Stabilizer	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Alcohol	Solvent	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Castor Oil	Tablet Coating	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Cellulose, Acetate Phthalate	Controls formulation release	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Cellulose, Microcrystalline	Stabilizer	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Dextrose	Medium Nutrient	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
D-fructose	Medium Nutrient	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
D-mannose	Stabilizer	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
DMEM	Growth Medium	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Fetal Bovine Serum	Growth Medium	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Lactose, Anhydrous	Stabilizer	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Magnesium Stearate	Lubricant for capsule filling	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Monosodium Glutamate	Stabilizer	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Plasdone C	Improves solubility	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Polacrillin Potassium	Buffer	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Potassium Phosphate	Buffer	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Sodium Bicarbonate	Buffer	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Sucrose	Stabilizer	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Yellow #6 Aluminum Lake Dye	Colorant	Adenovirus Type 4 and Type 7	<b>Adenovirus Type 4 and Type 7</b>	Amount not specified in PI
Aluminum Hydroxide	Adjuvant	BioThrax	<b>Anthrax</b>	1.2 mg/mL aluminum
Amino Acids	Medium	BioThrax	<b>Anthrax</b>	Amount not specified in PI
Benzethonium Chloride	Preservative	BioThrax	<b>Anthrax</b>	25 mcg/mL
Formaldehyde	Preservative	BioThrax	<b>Anthrax</b>	100 mcg/mL
Salt, inorganic	Medium	BioThrax	<b>Anthrax</b>	Amount not specified in PI
Sodium Chloride	Buffer	BioThrax	<b>Anthrax</b>	0.85%
Sugars	Medium	BioThrax	<b>Anthrax</b>	Amount not specified in PI
Vitamins	Medium	BioThrax	<b>Anthrax</b>	Amount not specified in PI
Aluminum	Adjuvant	Cyrendus	<b>Anthrax</b>	1.3 mg/mL
Amino Acids	Stabilizer	Cyrendus	<b>Anthrax</b>	Amount not specified in PI
Benzethonium Chloride	Preservative	Cyrendus	<b>Anthrax</b>	25 mcg/mL
Cell-free Filtrate	Medium/Vaccine	Cyrendus	<b>Anthrax</b>	100 mcg/mL
CPG 7909	Adjuvant	Cyrendus	<b>Anthrax</b>	0.5 mg/mL
Formaldehyde	Preservative	Cyrendus	<b>Anthrax</b>	100 mcg/mL
Salt, Inorganic	Medium	Cyrendus	<b>Anthrax</b>	Amount not specified in PI
Sodium Chloride	Buffer	Cyrendus	<b>Anthrax</b>	0.85%
Sugars	Medium	Cyrendus	<b>Anthrax</b>	Amount not specified in PI
Vitamins	Medium	Cyrendus	<b>Anthrax</b>	Amount not specified in PI
Asparagine	Medium Nutrient	BCG Vaccine	<b>BCG</b>	Amount not specified in PI
Citric Acid	Medium Nutrient	BCG Vaccine	<b>BCG</b>	Amount not specified in PI

Glycerin	Medium Nutrient	BCG Vaccine	<b>BCG</b>	Amount not specified in PI
Iron Ammonium Citrate	Medium Nutrient	BCG Vaccine	<b>BCG</b>	Amount not specified in PI
Lactose	Freezing stabilizer	BCG Vaccine	<b>BCG</b>	Amount not specified in PI
Magnesium Sulfate	Medium Nutrient	BCG Vaccine	<b>BCG</b>	Amount not specified in PI
Potassium Phosphate	Medium nutrient	BCG Vaccine	<b>BCG</b>	Amount not specified in PI
Albumin, Fetal Bovine Serum	Stabilizer	IXCHIQ	<b>Chikungunya</b>	<500 pg
Albumin, Recombinant Human	Stabilizer	IXCHIQ	<b>Chikungunya</b>	0.05 mg
Amino Acids	Stabilizer	IXCHIQ	<b>Chikungunya</b>	Amount not specified in PI
D-sorbitol	Stabilizer	IXCHIQ	<b>Chikungunya</b>	2.5 mg
L-methionine	Amino acid, nutrient	IXCHIQ	<b>Chikungunya</b>	0.75 mg
Magnesium Chloride Hexahydrate	Salt, buffer	IXCHIQ	<b>Chikungunya</b>	0.51 mg
Phosphate Buffer	Buffer	IXCHIQ	<b>Chikungunya</b>	0.313 mg Di-potassium Hydrogen Phosphate 0.098 mg Potassium di-hydrogen Phosphate
Protamine Sulfate	Protein Purifier	IXCHIQ	<b>Chikungunya</b>	< 1 mcg
Sucrose	Stabilizer	IXCHIQ	<b>Chikungunya</b>	25 mg
Trisodium Citrate Di-hydrate	Buffer	IXCHIQ	<b>Chikungunya</b>	3.68 mg
Vero cell DNA	Residual Medium	IXCHIQ	<b>Chikungunya</b>	<10 pg
Vero cells protein	Residual medium	IXCHIQ	<b>Chikungunya</b>	<5 ng
Vitamins	Medium	IXCHIQ	<b>Chikungunya</b>	Amount not specified in PI
Anhydrous lactose	Bulking Agent	VAXCHORA	<b>Cholera</b>	≤2.09 gc
Anhydrous lactose	Manufacturing Flow Aid	VAXCHORA	<b>Cholera</b>	0.18–0.22 g
Ascorbic acid	Stabilizer	VAXCHORA	<b>Cholera</b>	≤8.55 mg
Ascorbic acid	Buffer and Neutralizer	VAXCHORA	<b>Cholera</b>	1.50–1.80 g
Hy-Case SF (hydrolyzed casein)	Stabilizer	VAXCHORA	<b>Cholera</b>	≤ 17.11 mg
Sodium Bicarbonate	Buffer	VAXCHORA	<b>Cholera</b>	2.16–2.41 g
Sodium Carbonate	Buffer	VAXCHORA	<b>Cholera</b>	0.24-0.49 g
Sucrose	Stabilizer	VAXCHORA	<b>Cholera</b>	≤165.37 mg
Amino Acids, Essential	Stabilizer	DENG VAXIA	<b>Dengue</b>	0.56 mg including l-phenylalanine
Amino Acids, Non-essential	Stabilizer	DENG VAXIA	<b>Dengue</b>	0.2 mg
D-sorbitol	Stabilizer	DENG VAXIA	<b>Dengue</b>	9.38 mg
D-trehalose Dihydrate	Stabilizer	DENG VAXIA	<b>Dengue</b>	13.75 mg
L-arginine Hydrochloride	Stabilizer	DENG VAXIA	<b>Dengue</b>	2.5 mg
Sodium Chloride	Buffer/Diluent	DENG VAXIA	<b>Dengue</b>	2mg
Sucrose	Stabilizer	DENG VAXIA	<b>Dengue</b>	18.75 mg
Trometamol	Stabilizer	DENG VAXIA	<b>Dengue</b>	0.18 mg
Urea	Stabilizer	DENG VAXIA	<b>Dengue</b>	0.63 mg
Vero Cells	Growth Medium	DENG VAXIA	<b>Dengue</b>	Amount not specified in PI
Albumin, Human (recombinant, rice-derived)	Stabilizer	ERVEBO	<b>Ebola, Zaire</b>	2.5 mg/1 mL dose
Benzonase	Protein Purifier	ERVEBO	<b>Ebola, Zaire</b>	≤15 ng/1 mL dose
Host Cell DNA	Residual Medium	ERVEBO	<b>Ebola, Zaire</b>	≤10 ng/1 mL dose
Rice Protein	Residual Medium	ERVEBO	<b>Ebola, Zaire</b>	Trace amounts
Tromethamine (Tris)	Stabilizer	ERVEBO	<b>Ebola, Zaire</b>	10 mM/1 mL dose
Beta-propiolactone	Viral Inactivator	AUDENZ	<b>Influenza H5N1</b>	≤0.1 mcg
Cetyltrimethylammonium Bromide (CTAB)	Protein Purifier	AUDENZ	<b>Influenza H5N1</b>	≤ 4.5 mcg
Citric Acid Monohydrate	Medium Nutrient	AUDENZ	<b>Influenza H5N1</b>	0.04 mg at pH 6.5-7.7
Madin Darby Canine Kidney (MDCK) cell DNA	Residual Medium	AUDENZ	<b>Influenza H5N1</b>	≤10 ng
Madin Darby Canine Kidney (MDCK) cell protein	Residual Medium	AUDENZ	<b>Influenza H5N1</b>	≤3.15 mcg
MF59C.1 Adjuvant (MF59)	Adjuvant	AUDENZ	<b>Influenza H5N1</b>	Amount not specified in PH
Polysorbate 80	Surfactant	AUDENZ	<b>Influenza H5N1</b>	1.175 mg
Sodium Citrate Dihydrate	Buffer	AUDENZ	<b>Influenza H5N1</b>	0.66 mg
Sorbitan Trioleate	Stabilizer	AUDENZ	<b>Influenza H5N1</b>	1.175 mg
Squalene	Adjuvant	AUDENZ	<b>Influenza H5N1</b>	9.75 mg
Thimerosal	Preservative	AUDENZ	<b>Influenza H5N1</b>	25 mcg mercury in 0.5mL dose
Formaldehyde	Inactivating Agent	Influenza H5N1 sanofi	<b>Influenza H5N1</b>	≤200 mcg/1 mL dose
Gelatin, Porcine	Stabilizer	Influenza H5N1 sanofi	<b>Influenza H5N1</b>	500 mcg

Polyethylene Glycol p-Isoctylpheny Ether (Triton X-100)	Surfactant	Influenza H5N1 sanofi	<b>Influenza H5N1</b>	<0.05%/1 mL dose
Sucrose	Stabilizer	Influenza H5N1 sanofi	<b>Influenza H5N1</b>	≤2.0%/1 mL dose
Thimerosal	Preservative	Influenza H5N1 sanofi	<b>Influenza H5N1</b>	98.2 mcg/1 mL dose (50 mcg mercury)
Albumin, Bovine Serum	Stabilizer	Ixiaro	<b>Japanese Encephalitis</b>	≤100 ng/mL
Aluminum Hydroxide	Adjuvant	Ixiaro	<b>Japanese Encephalitis</b>	250 mcg
DNA	Residual Medium	Ixiaro	<b>Japanese Encephalitis</b>	≤200 pg/mL (host cell DNA)
Formaldehyde	Inactivating Agent	Ixiaro	<b>Japanese Encephalitis</b>	≤200 ppm
Phosphate Buffer	Buffer	Ixiaro	<b>Japanese Encephalitis</b>	Sodium chloride Potassium dihydrogen phosphate Disodium hydrogen phosphate
Protamine Sulfate	Protein Purifier	Ixiaro	<b>Japanese Encephalitis</b>	≤1 mcg/mL
Protein	Residual Medium	Ixiaro	<b>Japanese Encephalitis</b>	≤100 ng/mL host cell protein
Sodium Metabisulphite	Stabilizer	Ixiaro	<b>Japanese Encephalitis</b>	≤200 ppm
Vero cells	Medium Nutrient	Ixiaro	<b>Japanese Encephalitis</b>	Amount not specified in PI
2-Phenoxyethanol	Preservative	IPOLE	<b>Polio</b>	0.5%
Albumin, Bovine Calf Serum Protein	Stabilizer	IPOLE	<b>Polio</b>	<50 ng
Formaldehyde	Inactivating Agent	IPOLE	<b>Polio</b>	≤0.02%
M-199 Medium	Medium	IPOLE	<b>Polio</b>	Amount not specified in PI
Neomycin	Antimicrobial	IPOLE	<b>Polio</b>	<5 ng
Polymyxin B	Antimicrobial	IPOLE	<b>Polio</b>	25 ng
Streptomycin	Antimicrobial	IPOLE	<b>Polio</b>	200 ng
Vero Cells	Growth Medium	IPOLE	<b>Polio</b>	Amount not specified in PI
Albumin, Human	Stabilizer	Imovax	<b>Rabies</b>	<100 mg/mL
Beta-Propiolactone	Viral Inactivator	Imovax	<b>Rabies</b>	<50 ppm
MRC-5 cells	Manufacturing Residue	Imovax	<b>Rabies</b>	Amount not specified in PI
Neomycin Sulfate	Antimicrobial	Imovax	<b>Rabies</b>	<150 mcg/mL
Phenol Red Indicator	pH indicator, dye	Imovax	<b>Rabies</b>	20 mcg/mL
Albumin, Egg (Ovalbumin)	Residual Medium	RabAvert	<b>Rabies</b>	≤3 ng/1 mL dose
Albumin, Human	Diluent/Stabilizer	RabAvert	<b>Rabies</b>	≤0.3 mg/1 mL dose
Amphotericin B	Antimicrobial	RabAvert	<b>Rabies</b>	≤20 ng/1 mL dose
Beta-Propiolactone	Viral Inactivator	RabAvert	<b>Rabies</b>	Amount not specified in PI
Bovine Serum	Stabilizer	RabAvert	<b>Rabies</b>	"Small quantities", US origin
Chick Embryo	Residual Medium	RabAvert	<b>Rabies</b>	No intact cells (may have trace residual protein)
Chick Fibroblasts	Growth Medium	RabAvert	<b>Rabies</b>	minimal amounts protein residual
Chlortetracycline	Antimicrobial	RabAvert	<b>Rabies</b>	≤200 ng/1 mL dose
EDTA	Preservative	RabAvert	<b>Rabies</b>	0.3 mg/1 mL dose sodium EDTA
Gelatin, Bovine	Stabilizer, solvent	RabAvert	<b>Rabies</b>	≤12 mg/1 mL dose polygeline
Neomycin	Antimicrobial	RabAvert	<b>Rabies</b>	<10 mcg/1 mL dose
Potassium Glutamate	Stabilizer	RabAvert	<b>Rabies</b>	1 mg/1 mL dose
Albumin, Human	Diluent/Stabilizer	ACAM2000	<b>Smallpox/Mpox</b>	2%
Calf lymph vaccine	Growth Medium	ACAM2000	<b>Smallpox/Mpox</b>	Amount not specified in PI
Glycerin	Medium Nutrient	ACAM2000	<b>Smallpox/Mpox</b>	50% (v/v)
Mannitol	Stabilizer	ACAM2000	<b>Smallpox/Mpox</b>	5%
Neomycin	Antimicrobial	ACAM2000	<b>Smallpox/Mpox</b>	Trace Amounts
Phenol	Preservative	ACAM2000	<b>Smallpox/Mpox</b>	0.25% (v/v)
Polymyxin B	Antimicrobial	ACAM2000	<b>Smallpox/Mpox</b>	Trace Amounts
Sodium Chloride	Buffer	ACAM2000	<b>Smallpox/Mpox</b>	0.5- 0.7%
Vero Cells	Growth Medium	ACAM2000	<b>Smallpox/Mpox</b>	Amount not specified in PI
Benzonase	Protein Purifier	Jynneos	<b>Smallpox/Mpox</b>	≤ 0.0025 mcg
Chick Embryo Fibroblast cells	Residual Medium	Jynneos	<b>Smallpox/Mpox</b>	Amount not specified in PI
Ciprofloxacin	Antimicrobial	Jynneos	<b>Smallpox/Mpox</b>	≤ 0.005 mcg
DNA	Residual Medium	Jynneos	<b>Smallpox/Mpox</b>	≤20 mcg Host Cell DNA
Gentamicin	Antimicrobial	Jynneos	<b>Smallpox/Mpox</b>	≤ 0.400 mcg
Protein	Residual Medium	Jynneos	<b>Smallpox/Mpox</b>	≤500 mcg
Sodium Chloride	Adjust tonicity	Jynneos	<b>Smallpox/Mpox</b>	140 mM at pH 7.7
Tromethamine	Stabilizer	Jynneos	<b>Smallpox/Mpox</b>	10 mM
Albumin, Human	Diluent/Stabilizer	TICOVAC	<b>Tick-borne Encephalitis</b>	0.5 mg
Aluminum Hydroxide	Adjuvant	TICOVAC	<b>Tick-borne Encephalitis</b>	0.35 mg

Chick Protein	Residual Medium	TICOVAC	<b>Tick-borne Encephalitis</b>	Trace Amounts
Dibasic Sodium Phosphate	Buffer	TICOVAC	<b>Tick-borne Encephalitis</b>	0.22 mg
DNA from CEF cells	Residual Medium	TICOVAC	<b>Tick-borne Encephalitis</b>	Trace amounts
Formaldehyde	Inactivating Agent	TICOVAC	<b>Tick-borne Encephalitis</b>	≤5 mcg
Gentamicin	Antimicrobial	TICOVAC	<b>Tick-borne Encephalitis</b>	Trace amounts
Monobasic Potassium Phosphate	Buffer	TICOVAC	<b>Tick-borne Encephalitis</b>	0.045 mg
Neomycin	Antimicrobial	TICOVAC	<b>Tick-borne Encephalitis</b>	Trace amounts
Protamine Sulfate	Protein Purifier	TICOVAC	<b>Tick-borne Encephalitis</b>	≤0.5 mcg
Sodium Chloride	Buffer	TICOVAC	<b>Tick-borne Encephalitis</b>	3.45 mg
Sucrose	Stabilizer	TICOVAC	<b>Tick-borne Encephalitis</b>	≤15 mg
Bovine Casein	Medium Nutrient	Typhim Vi	<b>Typhoid</b>	Amount not specified in PI
Formaldehyde	Inactivating Agent	Typhim Vi	<b>Typhoid</b>	≤100 mcg (residual)
Hexadecyltrimethylammonium Bromide	Protein Purifier	Typhim Vi	<b>Typhoid</b>	Amount not specified in PI
Phenol	Preservative	Typhim Vi	<b>Typhoid</b>	0.25%
Phosphate Buffer	Buffer	Typhim Vi	<b>Typhoid</b>	0.065 mg disodium phosphate 0.023 mg monosodium phosphate
Polydimethylsiloxane	Antifoam	Typhim Vi	<b>Typhoid</b>	Residual, fatty-acid ester-based antifoam
Sodium Chloride	Adjust tonicity	Typhim Vi	<b>Typhoid</b>	4.150 mg
Amino Acid	Medium Nutrient	Vivotif	<b>Typhoid</b>	0.3-3.0 mg
Ascorbic Acid	Antioxidant	Vivotif	<b>Typhoid</b>	0.2-2.4 mg/capsule
Bovine Casein	Medium Nutrient	Vivotif	<b>Typhoid</b>	Amount not specified in PI
Dextrose	Medium Nutrient	Vivotif	<b>Typhoid</b>	Amount not specified in PI
Galactose	Medium Nutrient	Vivotif	<b>Typhoid</b>	Amount not specified in PI
Gelatin	Gelatin Capsules	Vivotif	<b>Typhoid</b>	Gelatin Capsule
Lactose	Stabilizer	Vivotif	<b>Typhoid</b>	<180-200 mg/capsule
Magnesium Stearate	Lubricant for capsule filling	Vivotif	<b>Typhoid</b>	3.6-4.0 mg/capsule
Sucrose	Stabilizer	Vivotif	<b>Typhoid</b>	3.3-34.2 mg/capsule
Yeast	Medium Nutrient	Vivotif	<b>Typhoid</b>	Amount not specified in PI
Chicken Embryo	Residual Medium	YF-VAX	<b>Yellow Fever</b>	Amount not specified in PI
Gelatin	Stabilizer	YF-VAX	<b>Yellow Fever</b>	Amount not specified in PI
Salts, Mineral	Adjust tonicity	YF-Vax	<b>Yellow Fever</b>	Ingredient in Diluent
Sorbitol	Stabilizer	YF-VAX	<b>Yellow Fever</b>	Amount not specified in PI

\* unless otherwise noted

This information is correct to the best of our knowledge. Please report inaccuracies to us at [info@hopkinsvaccine.org](mailto:info@hopkinsvaccine.org).

This table was last updated on December 20, 2024 | © 2024 Institute for Vaccine Safety