



# INGREDIENT LIST OF US-APPROVED COVID VACCINES

### Pfizer-BioNTech COVID-19 Vaccine

Ingredient Name	Registry Number	First Record	Prevalence in CAS Content <sup>1</sup>	Other Uses
Sodium Chloride	7647-14-5	1900	high	common table salt
Sucrose	57-50-1	1901	high	sugar
Monobasic potassium phosphate	7778-77-0	1904	high	Gatorade
Potassium chloride	7447-40-7	1900	high	salt replacer in low-sodium foods; baby formula
Cholesterol	57-88-5	1901	high	occurs naturally in humans and animals. Common foods include cheese, eggs, meat.
dibasic sodium phosphate dihydrate	10028-24-7	1946	medium <sup>2</sup>	Jell-O
1,2-distearoyl-sn-glycero-3-phosphocholine	816-94-4	1949	medium	A phosphatidylcholine (PC) found in foods like eggs and soybeans. Pure DSPC used in liposomes or lipid nanoparticles
2[(polyethylene glycol (PEG))-2000]-N,N-ditetradecylacetamide	1849616-42-7	2015	low	other vaccine studies include HIV, rotavirus; cancer therapies
(4-hydroxybutyl)azanediylbis(hexane-6,1-diyl)bis(2-hexyldecanoate)	2036272-55-4	2016	low	other vaccine studies include HIV, influenza, rabies, yellow fever, RSV, cancer

mRNA encoding the spike protein of the COVID-19 coronavirus, SARS-CoV-2

### Moderna COVID-19 Vaccine

Ingredient Name	Registry Number	First Record	Prevalence in CAS Content <sup>1</sup>	Other Uses
Sucrose	57-50-1	1901	high	sugar
Acetic acid	64-19-7	1876	high	distilled white vinegar
sodium acetate	127-09-3	1928	high	salt and vinegar chips
Cholesterol	57-88-5	1901	high	occurs naturally in humans and animals. Common foods include cheese, eggs, meat.
tromethamine	77-86-1	1944	medium	cosmetics, serums

tromethamine hydrochloride	1185-53-1	1949	medium	cosmetics, serums
1,2-distearoyl-sn-glycero-3-phosphocholine	816-94-4	1949	medium	A phosphatidylcholine (PC) found in foods like eggs and soybeans. Pure DSPC used in liposomes or lipid nanoparticles
PEG2000-DMG: 1,2-dimyristoyl-rac-glycerol, methoxypolyethylene glycol	160743-62-4	1995	low	targeted therapies, including targeted chemotherapy
SM-102: heptadecan-9-yl 8-((2-hydroxyethyl)(6-oxo-6-(undecyloxy)hexyl) amino) octanoate	2089251-47-6	2017	low	other vaccine studies include Zika virus, tropical viruses, cancer vaccines

mRNA encoding the spike protein of the COVID-19 coronavirus, SARS-CoV-2

### Johnson & Johnson/Janssen COVID-19 Vaccine

Ingredient Name	Registry Number	First Record	Prevalence in CAS Content <sup>1</sup>	Other Uses
Sodium Chloride	7647-14-5	1900	high	common table salt
Ethanol	64-17-5	1900	high	alcoholic beverages, hand sanitizer
polysorbate-80	9005-65-6	1906	high	sorbitol-based emulsifier: used in ice creams, topical use includes soaps
citric acid monohydrate	5949-29-1	1944	high <sup>2</sup>	Naturally occurring acid in citrus fruits. Anhydrous form used in bath bombs, or as food additive to add tartness. Soda
trisodium citrate dihydrate	6132-04-3	1939	medium <sup>2</sup>	Jell-O, Sprite, Gatorade
2-hydroxypropyl-β-cyclodextrin	7585-39-9	1977	high	naturally converted from starch by enzymes; widely used excipient; other vaccines since 1984

recombinant, replication-incompetent adenovirus type 26 expressing the SARS-CoV-2 spike protein

<sup>1</sup> Based on number of references for given Registry number. (high > 50,000, medium 10,000-50,000, low < 10,000)

<sup>2</sup> Includes occurrence of ingredient crystallized with one or two water molecules, and occurrence without water.

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