

# What Ingredients are in the COVID-19 Vaccine?

ct.gov/covidvaccine



## Pfizer-BioNTech Vaccine

- **95% effective**
- Number of shots: **2 shots, 21 days apart**
- Approved for use in people aged **16 years and older**
- **Ingredients:** messenger ribonucleic acid (mRNA), lipids (((4-hydroxybutyl)azanediyl)bis(hexane-6,1-diyl)bis(2-hexyldecanoate), 2 [(polyethylene glycol)-2000]-N,N-ditetradecylacetamide, 1,2-distearoyl-sn-glycero-3-phosphocholine, and cholesterol), potassium chloride, monobasic potassium phosphate, sodium chloride, dibasic sodium phosphate dihydrate, and sucrose
- **Explanation of ingredients:**
  - Lipids: Nanolipids, or tiny fat molecules, protect the mRNA and provide a "greasy" exterior that helps the mRNA slide inside cells. Nanolipid components in the Pfizer-BioNTech vaccine include: (((4-hydroxybutyl)azanediyl)bis(hexane-6,1-diyl)bis(2-hexyldecanoate), 2 [(polyethylene glycol)-2000]-N,N-ditetradecylacetamide, 1,2-distearoyl-sn-glycero-3-phosphocholine, and cholesterol
  - Salts: Helping to balance the acidity in your body, the following salts are included in the Pfizer-BioNTech vaccine: potassium chloride, monobasic potassium phosphate, sodium chloride, and dibasic sodium phosphate dihydrate
  - Sugar: Basic table sugar, also known as sucrose, can also be found in the Pfizer-BioNTech vaccine. This ingredient helps the molecules maintain their shape during freezing.
- **Does NOT contain: Eggs, Preservatives, Latex**

**Learn more, read the FDA full Pfizer-BioNTech Fact Sheet:**  
[www.fda.gov/media/144414/download](http://www.fda.gov/media/144414/download)

## Moderna Vaccine

- **94% effective**
- Number of shots: **2 shots, 28 days apart**
- Approved for use in people aged **18 years and older**
- **Ingredients:** messenger ribonucleic acid (mRNA), lipids (SM-102, polyethylene glycol [PEG] 2000 dimyristoyl glycerol [DMG], cholesterol, and 1,2-distearoyl-sn-glycero-3-phosphocholine [DSPC]), tromethamine, tromethamine hydrochloride, acetic acid, sodium acetate, and sucrose
- **Explanation of ingredients:**
  - mRNA: Like the Pfizer BioNTech vaccine, Moderna's also uses mRNA technology to build antibodies against COVID-19.
  - Lipids: Nanolipids help deliver the mRNA to the vaccine recipient's cells. Nanolipid components of the Moderna vaccine include: (SM-102, 1,2-dimyristoyl-rac-glycero-3-methoxypolyethylene glycol-2000 [PEG2000-DMG], cholesterol, and 1,2-distearoyl-snglycero-3-phosphocholine [DSPC])
  - The remaining ingredients, including acids (acetic acid), acid stabilizers (tromethamine and tromethamine hydrochloride), salt (sodium acetate), and sugar (sucrose) all work together to maintain the stability of the vaccine after it's produced.
- **Does NOT contain: Eggs, Preservatives, Latex**

**Learn more, read the FDA full Moderna Fact Sheet:**  
[www.fda.gov/media/144638/download](http://www.fda.gov/media/144638/download)



## Getting vaccinated is one of many steps you can take to protect yourself and others from COVID-19.

For some people, COVID-19 can cause severe illness or death. Getting vaccinated not only protects you from COVID-19, it also protects those around you by preventing its spread. Stopping a pandemic requires using all the prevention tools available. Vaccines work with your immune system so your body will be ready to fight the virus. Other steps, like masks and social distancing, help reduce your chance of being exposed to the virus and spreading it to others. **Together, COVID-19 vaccination and following CDC's recommendations to protect yourself and others will offer the best protection from COVID-19.**

### SOURCES

- [www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/Pfizer-BioNTech.html](http://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/Pfizer-BioNTech.html)
- [www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/Moderna.html](http://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/Moderna.html)
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- [www.hackensackmeridianhealth.org/HealthU/2021/01/11/a-simple-breakdown-of-the-ingredients-in-the-covid-vaccines](http://www.hackensackmeridianhealth.org/HealthU/2021/01/11/a-simple-breakdown-of-the-ingredients-in-the-covid-vaccines)

