

Addressing Questions Regarding COVID-19 Vaccine and Abortion Derived Cell Lines

Vaccines are made using different methods. Most vaccines are inactivated (not live) and others are live vaccines. Regardless of their method of manufacturing, all vaccines undergo rigorous testing before that can be given to the public and they undergo continuous safety evaluation after they are licensed and recommended for the U.S. public.

Some of the older vaccines have used cell-lines, including a few vaccines that also have used cell lines derived decades ago from aborted fetal tissue. Many religious organizations have developed position statements on the use of vaccines where such cell lines may be used in vaccine production. A compilation of these statements can be found at: <https://www.immunize.org/talking-about-vaccines/religious-concerns.asp>.

The first two COVID-19 vaccines most likely available for the U.S. use a method for developing and manufacturing that does not involve any cell lines. The vaccines are synthetic.

The first vaccine which has been granted an Emergency Use Authorization is the Pfizer/BioNTech mRNA vaccine. The vaccine is shipped -70C as a frozen concentrate. The vaccine, once thawed, must be reconstituted with 1.8mL of sterile saline (0.9% NaCl). Once reconstituted, each vial of vaccine contains 5 doses of 0.3mL of vaccine. Two doses are recommended, spaced at least 21 days apart. The vaccine has been shown in randomized trials of 44,000 persons to be safe and 95% effective. Side effects are generally mild and last 1-2 days and can include sore arm, redness and swelling at the injection site, fever and headache. Serious adverse reactions are rare. Two cases of anaphylaxis (a severe allergic reaction) have been reported.

Each 0.3 mL dose of the Pfizer-BioNTech COVID-19 Vaccine contains 30 mcg of a nucleosidemodified messenger RNA (modRNA) encoding the viral spike (S) glycoprotein of SARS-CoV-2, the virus that causes COVID-19.

Each dose of the Pfizer-BioNTech COVID-19 Vaccine also includes the following ingredients:

- Four different lipids
 - 0.43 mg (4-hydroxybutyl)azanediylbis(hexane-6,1-diyl)bis(2-hexyldecanoate),
 - 0.05 mg 2[(polyethylene glycol)-2000]-N,N-ditetradecylacetamide,
 - 0.09 mg 1,2-distearoyl-sn-glycero-3- phosphocholine, and
 - 0.2 mg cholesterol)
- Electrolytes
 - 0.01 mg potassium chloride,
 - 0.01 mg monobasic potassium phosphate,
 - 0.36 mg sodium chloride,
 - 0.07 mg dibasic sodium phosphate dihydrate, and
- 6 mg sucrose.

The diluent (0.9% Sodium Chloride/sterile saline Injection) contributes an additional 2.16 mg sodium chloride per dose.

Information regarding the Moderna vaccine is likely to be available at the end of the week of December 14.

Further information about the Pfizer/BioNTech vaccine ingredients and other vaccines that are granted an emergency use authorization in the future can be found at: <https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-vaccines>. CDC also maintains a list of vaccine ingredients at: <https://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/b/excipient-table-2.pdf>.