



## Addressing Concerns Related to Religious Beliefs

### The Issue

Some COVID-19 vaccine hesitancy stems from deeply held religious beliefs. Adherents of faiths that oppose abortion (e.g., Roman Catholics) may be concerned about the use of cell lines of remote fetal origin in vaccine research and development. Muslims and Jews may be concerned about vaccines that might contain pork-derived ingredients (pork-derived gelatin can be used as a vaccine stabilizer).



### Sound Bites

- > Cell lines of remote fetal origin are not the same as fetal tissue. None of the authorized COVID-19 vaccines contain any tissue from an aborted fetus.
- > The cell lines of remote fetal origin involved in testing of COVID-19 vaccines descend from cells taken from elective abortions in the 1970s and 1980s. These cell lines are maintained to have an indefinite life span. The current cells are thousands of generations removed from the original fetal tissue. None of the authorized COVID-19 vaccines involve fetal cells taken from recent abortions.
- > Cells of remote fetal origin were used to grow vaccine viruses for the Johnson & Johnson/Janssen COVID-19 vaccine, but that vaccine is no longer distributed in the United States. No COVID-19 vaccine contains whole cells or any pieces of DNA that are recognizable as human DNA.
- > Several faith-based groups have issued statements saying the net good from COVID-19 vaccines outweighs concerns about cell lines of remote fetal origin.
- > The Vatican's doctrinal office has stated that it is "morally acceptable" for Catholics to receive COVID-19 vaccines that have used cell lines of remote fetal origin in their research and production process.
- > COVID-19 vaccines contain no objectionable ingredients for people of faith who avoid pork products.

### Questions for Exploring Patient Concerns

- > What have you heard about COVID-19 vaccines and [fetal tissue] [pork products]?
- > [For concerns related to fetal tissue] Are you aware of the differences between the mRNA vaccines (i.e., Pfizer-BioNTech and Moderna) and the viral vector vaccine (Johnson & Johnson/Janssen) in relation to this issue?
- > [For concerns related to fetal tissue] Which is the greater consideration for you: the remote connection of a COVID-19 vaccine to an aborted fetus, or taking the vaccine as an act of charity toward other members of your community?

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### What We Know

**Use of Cell Lines of Remote Fetal Origin.** Several common live attenuated vaccines—including rubella, varicella, and hepatitis A vaccines—are made by growing the necessary viruses in fetal embryo fibroblast cells. The primary strains involved in vaccine production are WI-38, which was derived at the Wistar Institute in Philadelphia, Pennsylvania, and MRC5, which came from a Medical Research Council laboratory in London, England. Both cell lines were created in the 1960s using lung cells from fetuses that were aborted for reasons not associated with vaccine production.

The COVID-19 vaccines involve cell lines of somewhat more recent fetal origin:

- > HEK-293, a kidney cell line that comes from a fetus aborted in 1972 in the Netherlands.
- > PER.C6, a retinal cell line (owned by Janssen) that comes from a fetus aborted in 1985 in the Netherlands.

The Pfizer-BioNTech and Moderna mRNA vaccines used the HEK-293 cell line for confirmatory testing—either to demonstrate how a cell could take up mRNA and produce the SARS-CoV-2 spike protein or to characterize the SARS-CoV-2 spike protein. Neither vaccine is produced using fetal cell cultures. Notably, the pro-life Charlotte Lozier Institute lists these vaccines as “ethically uncontroversial.”<sup>1</sup>

The Vatican’s doctrinal office has stated that when ethically irreproachable COVID-19 vaccines are not available, “it is morally acceptable to receive COVID-19 vaccines that have used cell lines from aborted fetuses in their research and production process.”<sup>2</sup> Additionally, the United States Conference of Catholic Bishops has stated that “in view of the gravity of the current pandemic and the lack of availability of alternative vaccines, the reasons to accept the new COVID-19 vaccines from Pfizer and Moderna are sufficiently serious to justify their use, despite their remote connection to morally compromised cell lines.”<sup>3</sup>

The Johnson & Johnson/Janssen viral vector vaccine (no longer distributed in the United States) uses the PER.C6 cell line for vaccine production. The adenovirus that serves as the vector is rendered replication-deficient by replacing two genes needed for reproduction with the gene for SARS-CoV-2 spike protein. Because viruses need cells to reproduce and the altered virus cannot reproduce, the PER.C6 cell line was modified to include the gene that was removed from the adenovirus. These modified cell “factories” enable production of large quantities of viruses. Because PER.C6 cells are used in the manufacturing process, the Charlotte Lozier Institute considers the Johnson & Johnson/Janssen vaccine to be “ethically controversial.”<sup>1</sup> The United States Conference of Catholic Bishops has stated that the Pfizer-BioNTech or Moderna vaccine should be chosen over the Johnson & Johnson/Janssen vaccine if a choice is possible. If it is not possible to choose which vaccine is administered, then it is “morally acceptable” to accept the Johnson & Johnson/Janssen vaccine.<sup>4</sup>

**Use of Ingredients Derived From Pork.** Islamic law includes the concepts of halal (lawful or permitted) and haram (unlawful or prohibited). In reference to food, halal is the dietary standard, as prescribed in the Qur’an (the Muslim scripture). Pork and other pig products are considered to be haram.

Pork-derived gelatin has been used widely as a stabilizer in other vaccines. The possibility that authorized COVID-19 vaccines may contain porcine gelatin has raised concern among Muslims that the vaccines may not be halal.



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According to the manufacturers of the vaccines authorized for use in the United States, no animal products of any kind are in any of the COVID-19 vaccines. Pfizer/BioNTech went on to say that animal-derived raw materials are used during the manufacturing process of its COVID-19 vaccine but are not expected to be in the final product presentation. The final product does not contain any animal-derived ingredients.

Muslims who remain skeptical may wish to know about the following recommendation from a 1995 seminar held by the Islamic Organization for Medical Sciences in Kuwait: “the gelatin formed as a result of the transformation of the bones, skin, and tendons of a judicially impure animal is pure, and it is judicially permissible to eat.”<sup>5</sup>

Judaism has similar dietary laws restricting what can be consumed by followers of the faith. Food that is considered suitable for eating is termed kosher; pork is considered non-kosher and may not be consumed following this tradition. However, several Jewish authorities have stated that there is no problem with porcine or other animal-derived ingredients in non-oral products, including vaccines.<sup>6,7</sup>

## References

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