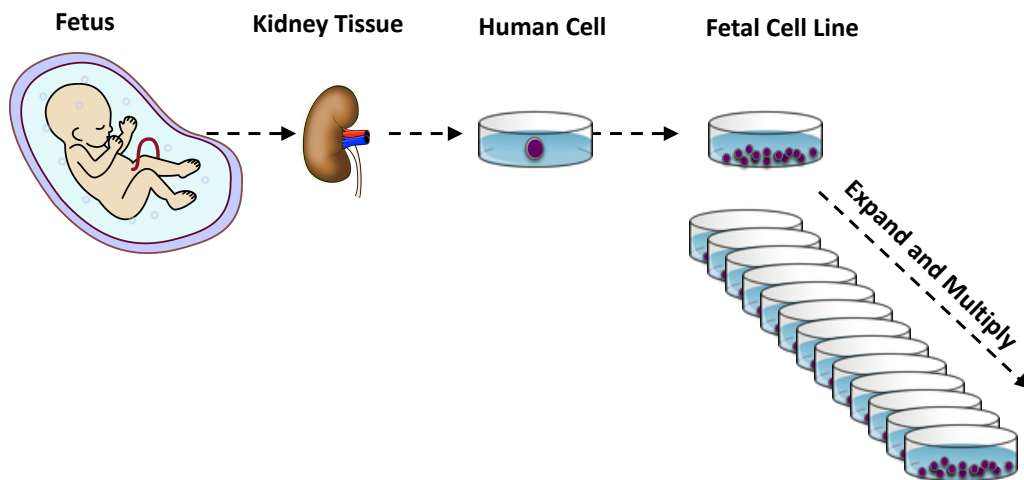


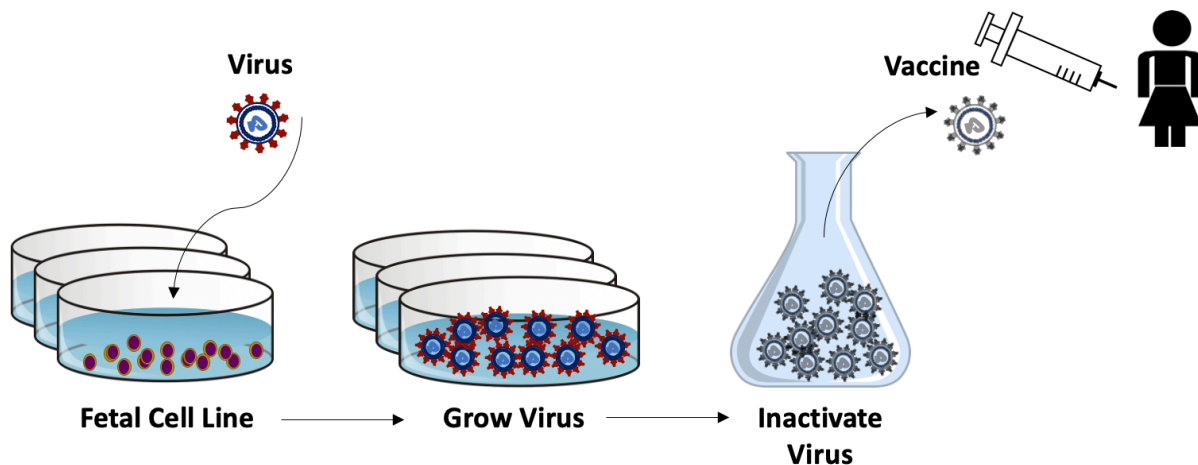
## What is a fetal cell line?

A cell taken from an aborted baby is multiplied into many cells of the same kind. These can be grown indefinitely and further multiplied, creating lines of cells that are sometimes used for science experiments.



## How are fetal cell lines used in vaccines?

Fetal cell lines have been used to grow viruses and then create inactive viruses for vaccines.



Historical fetal cell lines (WI-38 and MRC-5) derived in the 1960's and 1970's were used to create vaccines for diseases such as Rubella, Hepatitis A, and rabies. These and other historical cell lines (HEK293 and PER.C6) are sometimes used today in the creation of vaccines. Any vaccine that relies on these historic cell lines will not require new abortions.

## Are fetal cell lines necessary for vaccines?

Most vaccines use non-human cells. Vaccines can be developed ethically using no cells or cells from animals, insects, chicken eggs, or yeast.

## Do COVID vaccines being developed in Operation Warp Speed use fetal cell lines?

Six vaccines do not use fetal cell lines. Two vaccines do, using the historically derived fetal cell lines HEK293 and PER.C6.

**Table:** Vaccines being developed in Operation Warp Speed

Sponsor(s)	Type of Vaccine	Production
Astrazeneca & Univ. Oxford	Adenovirus carrier	✗ HEK293 abortion-derived cell line
Janssen and Johnson & Johnson	Adenovirus carrier	✗ PER.C6 abortion-derived cell line
Merck and IAVI	VSV (animal virus) carrier	✓ Vero monkey cells
Novavax	Protein vaccine	✓ Sf9 insect cells
Sanofi and GSK	Protein vaccine	✓ Sf9 insect cells
Moderna with NIAID	mRNA vaccine	✓ <i>No cells used</i>
Pfizer and BioNTech	mRNA vaccine	✓ <i>No cells used</i>
Inovio Pharmaceuticals	DNA vaccine	✓ <i>No cells used</i>

In order to increase the rates of COVID vaccination among the public, many of whom are opposed to the use of fetal cell lines, policymakers may want to encourage the production and availability of vaccines that do not use fetal cell lines.

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View more research from Charlotte Lozier Institute on stem cells at  
<https://lozierinstitute.org/category/stem-cells>