Induced pluripotent stem cells (iPSCs) and organoids cannot replace fetal tissue research

It has been inaccurately stated that iPSCs and organoid models can replace fetal tissue research. These cells and model systems may reduce the need for fetal tissue to address certain questions, but they cannot replace it. Organoids can only be used to model certain aspects of human development that can be studied in culture (growing in laboratory dishes). There are many disease processes or therapies for which studies in tissue culture are not sufficient - in vivo studies are required. This is particularly true of diseases that involve interactions between different tissues or complex combinations of cell types.

O

into mice to form human blood-forming and immune systems). The BLT mice have human blood-forming stem cells that are maintained and that give rise to diverse types of human blood and immune system cells within human blood-forming tissues (liver and bone marrow). In contrast, the NeoThy mouse has only human thymic tissue in which one component of the human immune system can develop. Cord blood cells can be transplanted into NeoThy mice to transiently form other components of the blood forming system but in the NeoThy mouse this occurs in mouse blood-forming tissues, not in human tissues. Consequently, the NeoThy mouse does not fully model human blood cell production within human tissues. The NeoThy mouse may be adequate for some applications, but the BLT mouse more fully models the formation of human blood and immune system cells in human tissues and therefore is a more realistic model for many diseases. The NeoThy mouse is also still a new model that has yet to be fully vetted by the scientific community.

Tissue from spontaneous abortions cannot replace tissue from elective abortions

Tissue from spontaneous abortions is not a reliable substitute for tissue from elective abortions. Spontaneous abortions, commonly called miscarriages, often result from profound genetic defects, developmental abnormalities, or other conditions that undermine the usefulness of the tissue for research. Finally, spontaneous abortions generally do not occur in settings where the tissue can be adequately preserved for research.

Fetal tissue research is critical for researching early human development

Fetal tissue allows researchers to more fully understand congenital defects such as those of the heart or nervous system and to understand how viruses like the Zika virus impact fetal development. The use of donated fetal tissue has been critical for understanding how Zika virus crosses the placenta and impacts human brain development. The insights gained through studies of Zika virus in human fetal tissue are already guiding the development of therapies to prevent transmission of the virus. These examples illustrate how legislation that limits human fetal tissue research would hinder the development of critical new treatments and potentially cost lives.

There are well-established and rigorous regulatory frameworks for fetal tissue research

Rigorous legal and ethical oversight of fetal tissue research has been in place for decades. This research has garnered bipartisan support in the U.S. Congress and has been funded by the National Institutes of Health (NIH). Numerous federal panels and reviews, conducted under both

development of a therapy to prevent the transmission of HIV (Truvada). It remains critical for on-going clinical research for Amyotrophic Lateral Sclerosis (ALS), spinal cord injury, and Fetal tissue is medically important to understand human development, to test new therapies, and as a source of cells for new cell therapies that offer the potential to improve the treatment of major public health problems.

If fetal tissue research had been prohibited decades ago, vaccines that have saved millions of lives would never have been developed, or their development would have been delayed. How many lives would have been lost? How many lives will be lost in the future if other lifesaving interventions are prevented or delayed by restricting future fetal tissue research?

We urge you to support the continuation of this important research to support the families who are relying on biomedical research to develop new treatments for diseases that affect their loved ones and millions of other people around the world.

Sincerely,

AIDS Action Baltimore
Axis Advocacy
AIDS Foundation of Chicago
AIDS Treatment Activist Coalition
Alliance for Aging Research
American Academy of HIV Medicine
American Association for the Advancement of Science
American Association of Anatomists
American Association of Colleges of Pharmacy
American Association of Immunologists
American Physiological Society
American Society for Cell Biology
American Society for Investigative Path14(e)13(t)-4(al)]TJETQ0.000009912 0 612 792 reW*nBT/F1 11.04 Tf1 0 0 1 1

HIV Medicine Association
HIV+Aging Research Project-Palm Springs
Housing Works
International Rectal Microbicide Advocates
International Society for Stem Cell Research
ISCT, International Society for Cell & Gene Therapy
Lupus and Allied Diseases Association
Massachusetts General Hospital
Nashville CARES
NASTAD
National Multiple Sclerosis Society
New York University
NMAC (Formerly known as the National Minority AIDS Council)
Project Inform
Research!America
Rutgers Biomedical and Health Sciences
Society for Neuroscience
Stanford University School of Medicine
Texans for Cures
The Michael J. Fox Foundation for Parkinson's Research
The Nebraska Coalition for Lifesaving Cures
The State University of New York System
The University of California System
Treatment Action Group
Tuberous Sclerosis Alliance
University at Buffalo Jacobs School of Medicine and Biomedical Sciences
University of Michigan