

Editorial Example #1:



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Editorial

Stem-cell research: Why Bush is wrong

President Bush's overly cautious policy on stem-cell research shackles scientists and limits hope for many Americans.

The United States has always been a leader in pushing the outer limits of scientific research. Science should trump ideology; Bush lets it be the other way around.

The death of former President Ronald Reagan, and Nancy Reagan's poignant plea to loosen rules on stem-cell research to help Alzheimer's' patients, did not change Bush's mind.

In a recent speech to the Southern Baptist Convention, he restated his commitment to an earlier policy that limits federal funding of embryonic stem-cell research to cells already isolated in the lab and grown into stem cell "lines." The policy becomes less defensible every day.

No one knows for certain all that can be helped by stem cells. Scientists believe they hold extraordinary healing powers and may aid everything from brain function impaired by Alzheimer's and Parkinson's to pancreas function limited by diabetes and heart function after a heart attack.

In contrast to Bush, Sen. John Kerry's call to restore the role of scientific advancement more clearly represents the American character. With the endorsement of 48 Nobel Prize laureates, Kerry called for the U.S. to find the cures of tomorrow.

Bush hoped his 2001 decision to allow federal funds to be used on existing stem-cell lines would end the debate. He attempted to carve an imaginary middle line in our country's politics.

For people suffering a variety of ailments, there is no middle ground. Federal funding of research on a broader supply of stem cells should proceed in earnest.

Many embryonic stem cells at the center of the debate are left over from in vitro fertilization and otherwise would be discarded and wasted.

Staunch conservative Sen. Orrin Hatch, R-Utah, supports stem-cell research. Fifty-eight senators recently sent a letter to the White House urging Bush to relax the restrictions.

Bush's stubbornness on this issue lets other countries lead the way. The president is wrong to impede progress.

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Editorial Example #2 (Informative and opinionated)

COMMENTARY

Post Date: April 9, 1999

The Human Embryonic Stem Cell Project

by Daniel McConchie and Linda K. Bevington

In the past several months, there has been a flurry of announcements about the progression of research into human stem cells. Stem cells are those precursor cells from which all 210 different kinds of human tissue originate. Researchers hope that these cells can provide new treatments for everything from Alzheimer's disease to diabetes to heart disease. There are hopeful signs that stem cells may present solutions to previously unsolvable medical problems.

There are two types of stem cells that researchers are investigating. First, there are stem cells which are derived from existing tissue in the adult body. Second, there are stem cells that are harvested from human embryos, killing the embryo in the process. Adult cells are more specialized than embryonic cells and presumably have the ability to develop into fewer types of tissue. Although embryonic stem cells would seem to have greater promise for treating a broader range of disease, evidence of this is inconclusive. It may be that a number of different kinds of adult stem cells can achieve the same ends that embryonic stem cells can. Moreover, because adult stem cells are further developed than embryonic stem cells, attempts to use adult cells to produce needed tissues may likely be more successful in the near term. It's like only needing to travel to Los Angeles from St. Louis instead of from Boston.

However, even if human embryonic stem cells were to be found more useful than adult stem cells for future medical treatment, people should oppose that research whenever a human embryo is destroyed in the process. The utilitarian thinking underlying this research is what led to Nazi experimentation during World War II and U.S. Government radiation experiments during the Cold War. Yet, even with this recent history, the Department of Health and Human Services stands poised to release research grants to researchers who will study human embryonic stem cells.

Seventy U.S. Congressmen and seven Senators have written to the Department of Health and Human Services opposing this grant proposal. The Center for Bioethics and Human Dignity and various other organizations and individuals have begun the Human Embryonic Stem Cell Project to educate the public about this research, advocate the prohibition of public funding of it, work toward the outlawing of the practice, and encourage constructive alternatives. There are better ways to achieve the desired medical benefits. **CBHD**

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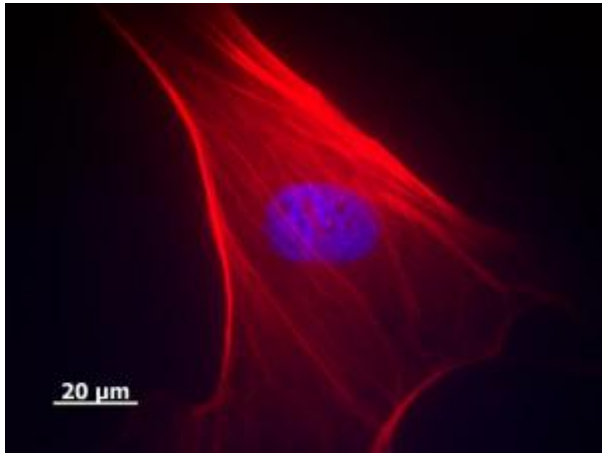
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Factual Example:

Stem Cells From Hair Follicles May Help 'Grow' New Blood Vessels



Research by Stelios Andreadis has produced this smooth muscle progenitor cell derived from a hair follicle, which expresses calponin (in red), a marker for smooth muscle cells. The cell nucleus is shown in blue. (Credit: Image courtesy of University at Buffalo)

ScienceDaily (Mar. 29, 2008) — For a rich source of stem cells to be engineered into new blood vessels or skin tissue, clinicians may one day look no further than the hair on their patients' heads, according to new research published earlier this month by University at Buffalo engineers.

"Engineering blood vessels for bypass surgery, promoting the formation of new blood vessels or regenerating new skin tissue using stem cells obtained from the most accessible source -- hair follicles -- is a real possibility," said Stelios T. Andreadis, Ph.D., co-author of the paper in Cardiovascular Research and associate professor in the Department of Chemical and Biological Engineering in the UB School of Engineering and Applied Sciences.

Researchers from other institutions previously had shown that hair follicles contain stem cells.

In the current paper, the UB researchers demonstrate that stem cells isolated from sheep hair follicles contain the smooth muscle cells that grow new vasculature. The group recently produced data showing that stem cells from human hair follicles also differentiate into contractile smooth muscle cells.

"We have demonstrated that engineered blood vessels prepared with smooth muscle progenitor cells from hair follicles are capable of dilating and constricting, critical properties that make them ideal for engineering cardiovascular tissue regeneration," said Andreadis.

In addition to growing new skin for burn victims, cells from hair follicles could potentially be used to engineer vascular grafts and possibly regenerate cardiac tissues for patients with heart problems.

Since smooth muscle cells comprise the muscle of numerous tissues and organs, including the bladder, abdominal cavity and gastrointestinal and respiratory tracts, this new, accessible source of cells may make possible future treatments that allow for the regeneration of these damaged organs as well.

Andreadis and his colleagues previously engineered functional and implantable blood vessels with smooth muscle and endothelial cells originating from bone-marrow mesenchymal stem cells.

A key advantage of mesenchymal cells is that they typically do not trigger an immune reaction when transplanted, he said.

"Preliminary experiments in our laboratory suggest an exciting possibility -- that stem cells from hair follicles may be similar to bone-marrow mesenchymal cells," Andreadis said.

"The best case scenario is that from this one very accessible and highly proliferative source of stem cells, we will be able to obtain multiple different cell types that can be used for a broad range of applications in regenerative medicine," he said.

Co-authors on the paper are Jin Yu Liu, Ph.D., research assistant professor, and Hao Fan Peng, a doctoral candidate, both in the UB Department of Chemical and Biological Engineering.

The work was funded by the John R. Oishei Foundation of Buffalo. Previous work by Andreadis has been funded by UB's Integrative Research and Creative Activities Fund in the UB Office of the Vice President for Research.

University at Buffalo (2008, March 29). Stem Cells From Hair Follicles May Help 'Grow' New Blood Vessels. *ScienceDaily*.

<http://www.sciencedaily.com/releases/2008/03/080329083514.htm>