

## Embryonic Research Paper Called into Question

By Liz Townsend

On the eve of the vote in Missouri that authorized the cloning and killing of human embryos, a paper published by one of the state's most vocal proponents of embryonic research "may not be reliable," according to Science magazine. [For more on the passage of "Amendment Two" in Missouri, see page 23.]

The report, published in the February 17 issue of Science by a team at the University of Missouri at Columbia led by R. Michael Roberts, used mouse embryos to purportedly show that after the first cell division in an embryo, one cell with a specific protein develops into the placenta and the other without the protein forms the fetus, the Columbia Daily Tribune reported.

The paper could have implications for embryonic stem cell research, since it involves the question of whether cells are pre-programmed to become certain types of tissue and the whole process of cell division and differentiation.

In addition to using mouse embryos, Roberts, professor of animal sciences, also uses the human embryonic cell lines authorized by President George W. Bush in his research. Although he did not publicly comment on Amendment 2, the embryonic clone-and-kill initiative that passed in Missouri November 7, Roberts has spoken out in support of broadening the use of human embryos in research and dismissing the humanity of embryos.

"To me, an eight-month-old fetus has more moral status than a four-month-old fetus and a four-month-old fetus has more moral status than a four-day-old embryo," Roberts told the Columbia Missourian. "Imagine that you have a house that is on fire. You have two children, the family dog and some embryos frozen in the cellar. Whom would you rescue first? Most people would rescue their children first. Then whom would you rescue? Would you rescue the frozen embryos or the family dog? I'm not trying to make light of this, but most people would probably rescue the dog."

Roberts told the Associated Press that embryonic research will one day become just another acceptable form of medical practice. "I think it will just be routine," he said. "We'll look back and say, 'What was all the fuss about?'"

The University of Missouri began an investigation in June after a scientist sent a letter to Science questioning the veracity of several images that accompanied the article, according to the Columbia Missourian. The university has convened a three-member committee of senior faculty to members to determine if the images were digitally altered in any way.

If this committee finds that the research team altered the images, the case would be turned over to a standing committee on research responsibility, the Missourian reported.

In response to the investigation, Science magazine issued its second-ever "editorial expression of concern" October 27. Science's first "expression of concern" came in the case of disgraced

South Korean embryonic stem cell researcher Hwang Woo-suk, whose papers published in Science, including their accompanying images, were shown to be faked.

"[University officials] found enough evidence that they thought a full investigation was warranted," Katrina Kelner, Science's deputy editor for life sciences, told the Tribune. "On the basis of what they told us, we felt it important to inform the scientific community. We want to prevent people from building on this work when they should not or citing it in papers they write or basing their experiments on this."