MEMORANDUM

TO: Honorable Members of the Missouri House of Representatives

FROM: James S. Cole, General Counsel
Pam Fichter, President

RE: HCS HB 2260

DATE: April 24, 2008

HB 2260 reinstates certain tax credits that may be granted toward certain research and development expenses, including research and development of pharmaceuticals**. Because pharmaceutical research and development is a primary subject of cloning research, Missouri Right to Life opposes HB 2260.**

One of the principal ways that cloning firms and institutions will make money consists of using cloning to establish lines of human stem cells, on which various drug formulas may be tested. In fact, the Wisconsin scientist who invented the process that keeps human stem cells alive in cultures, James Thomson, has formed at least one company to do exactly that. As was reported in The Capital Times of Madison Wisconsin last year, "The [company] is growing stem cells into adult heart cells that could make the testing of experimental drugs safer and more efficient." The Madison Times, Feb. 7, 2007. The news article went on to report, "[T]he research faces intense opposition from some social conservatives because days-old human embryos are destroyed as scientists extract the cells. Critics argue it is unethical to destroy human life in the name of science."

Precisely. James Thomson may be an eminent scientist, but no one, whether a scientist, businessman, or abortionist, should have a license to kill innocent human beings. Nor should the State of Missouri give tax credits to research institutions who sponsor the killing of human beings in order to obtain stem cells for pharmaceutical research.

The U. S. Food and Drug Administration (FDA) says that the development of any new drug now requires at least $500 million and 8 ½ years of testing. See its summary, "FDA and the Drug Development Process: How the Agency Ensures That Drugs are Safe and Effective," February, 2002, p. 1 (http://www.fda.gov/opacom/factsheets/justthefacts/ 17drgdev.html). A large part of the cost arises from the requirement to test potential drugs on at least two different

species of animals. FDA, "The New Drug Development Process: Pre-Clinical Research," on-line at http://www.fda.gov/cder/handbook/. Animal tests require acquiring and caring for live animals during the testing. Moreover, animal tests are not very satisfactory for some drugs. Testing potential pharmaceuticals on batches of human tissue cells, such as heart cells, would give more accurate and quicker results than animal studies.

The National Institutes of Health has described how embryonic stem cells can be used in the testing of drugs. It says that human embryonic stem cells can "provide material for testing that may improve the safety and efficacy of human drugs. For example, new drugs are not generally tested on human heart cells because no human heart cell lines exist. Instead, researchers rely on animal models. Because of important . . . differences between animal and human hearts, however, drugs that are toxic to the human heart have occasionally entered clinical trials [tests on humans], sometimes resulting in death. Human ES cell-derived heart cells may be extremely valuable in identifying such drugs before they are used in clinical trials, ..." NIH, Regenerative Medicine 2006, Chap. 1, "Embryonic Stem Cells," page 4 (citations and table omitted) (http://stemcells.nih.gov/info/scireport/2006report.htm). It is not just human heart cells, but many types of human cells, that are expected to be produced by taking stem cells from human embryos. Id. Harvesting the stem cells, of course, kills the embryos.

The NIH does not explain why adult stem cells cannot be used for the purposes described, in light of the many ways that researchers have already proved they may be changed into other types of tissue cells. That possibility does not appear to be important to those who want to use embryonic stem cells.

For these reasons, Missouri Right to Life is opposed to HB 2260.