Researchers working with stem cells should follow the example of their colleagues in genetic sequencing and clinical research, setting up global networks for sharing data, materials, and intellectual property, according to a report released today in Washington, D.C. The Hinxton Group, an international consortium that examines issues of stem cells, ethics, and law, issued half a dozen recommendations that it says would make stem cell research more efficient and more beneficial to the common good.

In the decade since the first human embryonic stem cells were isolated, the science surrounding stem cells has grown dramatically. There are many hundreds, if not thousands, of different stem cell lines in use around the world. But researchers don't have efficient ways to compare the characteristics of different cell lines or to access lines that might be especially useful for a given project. And a proliferation of overlapping and competing intellectual property claims is threatening to slow down research even more, says Debra Mathews, a bioethicist at the Johns Hopkins Berman Institute of Bioethics in Baltimore, Maryland, and a member of the Hinxton steering committee. "It has gotten to a point where for the science to move forward, these issues have to be addressed," she says.

The report recommends setting up a publicly available global stem cell registry that would include a cell line's characteristics and derivation information.

Stem cell banks and cell repositories that are already helping to store and distribute cell lines should be expanded and should coordinate and standardize their work. Funding agencies, research institutions, and journals should make data and material sharing mandatory.

A database of stem cell-related patents is also urgently needed, the group says, to help scientists deal with the thorny thicket of intellectual property that has grown along with the hot field. In addition to the database, researchers, funders, and institutions should explore ways that intellectual property could be shared through so-called patent pools or other agreements that would make it simpler for researchers—and companies—to know what royalty costs they might expect. The group also recommends that patents involving government-funded inventions should conform to standards that allow broad use of the data, materials, and technologies involved.

Such databases and cell banks don't come cheap, but Robin Lovell-Badge, a stem cell scientist at the MRC National Institute for Medical Research in London and a member of the Hinxton steering committee says several funding agencies have already expressed support. "Funders are keen for the data to be made available, and they're willing to put some money into it," he says.

The group focused its efforts on human pluripotent stem cells, which can become all of the body's tissues. Pluripotent stem cells include embryonic stem cells, which are derived from early embryos, and induced pluripotent stem cells, which are made by reprogramming cells taken from adult tissues such as skin. However, the statement encourages researchers working with cells from other tissues to adopt similar practices and join the data-sharing networks and cell banks.
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