ETC Group
News Release
28 June 2007
www.etcgroup.org

Synthia's last hurdle?

Synthia – the "Original Syn" artificial microbe – may have jumped a hurdle that Dolly – the cloned sheep – never could

Synthia, the (theoretical) human-made synthetic microbe – still barely a twinkle in J. Craig Venter's eye – may be in search of a surrogate micro-mom sometime very soon. According to a research report released today in *Science* magazine, Synthia (the subject of a patent application discovered by ETC Group a few weeks ago -see *"Goodbye Dolly -- Hello Synthia!"*) may have overcome her last hurdle. The report, authored by Craig Venter and his colleagues at Synthetic Genomics Inc., claims to have inserted a foreign bacterial genome into the cell of another bacterial species. Nobel laureate Hamilton Smith who is one of Venter's co-authors in the research article told a meeting of synthetic biologists in Zürich on Monday that this represents a significant step en route to building a whole new life form. As the article itself concludes, "…we have discovered a form of bacterial DNA transfer that permits … recipient cells to be platforms for the production of new species using modified natural genomes or manmade genomes…"

"In the case of Dolly the cloned sheep," says Jim Thomas of ETC Group, "the job was to insert a single parent's DNA into an embryonic cell for replication. Venter's group replaces the host cell's natural DNA with another species." "The peas in this pod would not look alike at all," adds ETC's Executive Director, Pat Mooney, "it's like pod-outcasting."

The team of synthetic Genomics scientists inserted the whole genome of *Mycoplasma capricolum* – a bacterium that often infects goats – into another bacterium showing that it is possible to "boot up" a new species through the cells of another species. "Synthia – the artificial goat bug – may, if it works, surpass Dolly – the lamb clone – with the scientific breakthrough," says Pat Mooney.

The patent application disclosed at the end of April showed that – at the time of application – no one had created artificial life. But, at the same time, the patent claims that the method it disclosed could make artificial life possible. Today's article, by some of the same inventors, seems to suggest that the patent may need updating. Presumably, Synthetic Genomics Inc. is submitting a new application for this new approach. "For at least two years now, Craig Venter has been promising the world artificial life in a matter of months," Thomas notes, "The promises keep coming and the months keep rolling by. Now the research team may have just overcome one of the last hurdles to synthetic life." Pat Mooney adds, "However, the real hurdle that Synthia and Craig Venter have to overcome is society. Synthetic biology is a form of extreme genetic engineering that has

enormous implications for everyone who lives on this planet."

Despite the delays and the changes, no one attending the Synthetic Biology 3.0 gathering in Zürich this week really doubts the ability of the technology to build unique life forms. "Perhaps the most shocking thing about all this," concludes Jim Thomas, "is that scientists now treat the construction of artificial life as a 'given'. Everyone seems to feel it is just a matter of time." During the Zürich conference earlier this week, Jim Thomas of ETC Group called for scientists to join with civil society and governments in a broad societal discussion over the socio-economic, environmental, health, and ethical implications of the new technology. (*For further information about the Zürich meeting, see http://www.etcblog.org/.)*

ETC Group will be discussing the implications of Synthetic Biology and the potential development of artificial life forms when the UN Convention on Biological Diversity's scientific subcommittee meets next week in Paris (July 2 – 6). Climate change is on the UN body's agenda and Craig Venter is claiming that Synthia could be used to improve agricultural crops as agri-fuels. As the intergovernmental agency responsible for the Cartagena Protocol (the treaty on the transboundary movement of genetically-modified organisms), ETC Group believes that the Convention should study whether entirely artificial life forms (unnatural biodiversity) come under the remit of the protocol and (whether they do or not) what the impact might be on natural biodiversity.

For further information:

Jim Thomas: jim@etcgroup.org, tel: +1-514-516-5759
Kathy Jo Wetter: kjo@etcgroup.org, tel: +1-919-960-5223
Pat Mooney: etc@etcgroup.org, tel: +1-613-241-2267
Silvia Ribeiro: silvia@etcgroup.org, tel: +52-5555-6326-64