



News Release
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Patenting Pandora's Bug

Goodbye, Dolly...Hello, Synthia! J. Craig Venter Institute Seeks Monopoly Patents on the World's First-Ever Human-Made Life Form

ETC Group Will Challenge Patents on "Synthia" – Original Syn Organism Created in Laboratory

Ten years after Dolly the cloned sheep made her stunning debut, the J. Craig Venter Institute is applying for a patent on a new biological bombshell – the world's first-ever human-made species. The novel bacterium is made entirely with synthetic DNA in the laboratory.

The Venter Institute – named for its founder and CEO, J. Craig Venter, the scientist who led the private sector race to map the Human Genome – is applying for worldwide patents on what they refer to as "*Mycoplasma laboratorium*." In the tradition of 'Dolly,' ETC has nicknamed this synthetic organism (or 'syn') 'Synthia.'

"Synthia may not be as cuddly as a cloned lamb, but we believe this is a much bigger deal," explains Jim Thomas of ETC Group, a civil society organization that is calling on the world's patent offices to reject the applications. "These monopoly claims signal the start of a high-stakes commercial race to synthesize and privatize synthetic life forms. Will Venter's company become the 'Microbesoft' of synthetic biology?" asks Jim Thomas.

"For the first time, God has competition," adds Pat Mooney of ETC Group. "Venter and his colleagues have breached a societal boundary, and the public hasn't even had a chance to debate the far-reaching social, ethical and environmental implications of synthetic life," said Mooney.

In Vivo, In Vitro, In-Venter? Published on May 31, 2007, the Venter Institute's US Patent application (number 20070122826) claims exclusive ownership of a set of essential genes and a synthetic "free-living organism that can grow and replicate" that is made using those genes. The Venter Institute has also filed an international patent application at the World Intellectual Property Organization (WIPO number WO2007047148, published April 27, 2007) which names more than 100 countries where it may seek monopoly patents.

Pandora pending: Patent experts consulted by ETC Group indicate that, based on the language used in the application, the Venter Institute researchers had probably not achieved a fully-functioning organism at the time of the filing (October 12, 2006).

“It has been eight months since the Institute applied for its patents, so we don’t know how much progress they’ve made, whether there is a scientific paper in press or how imminent the first synthetic species is,” said Pat Mooney of ETC Group. “We’ve been hearing for more than two years now that Venter is on the verge of announcing the birth of a new bacterium. Many people think Venter’s company has the scientific expertise to do the job,” said Mooney.

Venter’s Institute claims that its stripped-down microbe could be the key to cheap energy production. The patent application claims any version of “Synthia” that can make ethanol or hydrogen. Since the research was partially funded by the US Department of Energy, the US government will hold “certain rights” to the patent, if approved.

“It’s purely speculation and hype that syns [synthetic living organisms] will be used to ameliorate climate change by producing cheap ethanol or hydrogen,” said Jim Thomas. “The same minimal microbe could be harnessed to build a virulent pathogen that could pose grave threats to people and the planet,” he said.

“Synthetic biologists have already assembled the poliovirus from off-the-shelf DNA, a feat that its constructor called ‘a giant wake up call’ because of the biowarfare implications. Syns are being hyped as a green, climate-change solution in order to deflect concerns that they could be used as bioweapons,” adds Silvia Ribeiro of ETC Group.

The patent application is also a wake-up call to synthetic biologists who are advocating for “open source” biology – the idea that the fundamental tools and components of synthetic biology should be freely accessible to researchers. In the June 4 issue of *Newsweek* Craig Venter boasts, “If we made an organism that produced fuel, that could be the first billion- or trillion-dollar organism. We would definitely patent that whole process.” In 2005, Venter founded Synthetic Genomics, Inc. to commercialize synthetic microbes for use in energy, agriculture and climate change remediation.

Syn of Omission? Synthetic biologists may also be dismayed to learn that Synthia is being patented for what it is not. The patent application explains that the inventors arrived at their minimal genome by determining which genes are essential and which are not. Remarkably, their patent application claims any synthetically-constructed organism that lacks at least 55 of 101 genes that they’ve determined are non-essential. “All synthetic biologists developing functionalized microbes are going to have to pay close attention to the claim on a ‘non-essential’ set of genes. If someone creates another bug that lacks some of the same genes that Synthia lacks, will the Venter Institute sue them for infringing its patent?” asks Kathy Jo Wetter of ETC Group.

Action Needed: Before syns are allowed to go forward, society must debate whether they are socially acceptable or desirable: How could their accidental release into the environment be prevented or the effects of their intentional release be evaluated? Who will control them, and how? How will research be regulated? In 2006 a coalition of 38 civil society organizations called on synthetic biologists to withdraw proposals for self-governance of the technology.

Today, ETC Group is writing to Dr. J. Craig Venter, CEO of the J. Craig Venter Institute, asking him to withdraw the Institute's patent applications filed at the U.S. PTO and WIPO, pending a full public debate over the implications of creating synthetic life forms.

“We don't want to engage in a long-term legal strategy to slap down bad patents. These patents must be struck down before they're issued,” said ETC Group's Hope Shand. Last month, ETC Group won its 13-year legal challenge when the European Patent Office revoked Monsanto's species-wide soybean patent.

ETC is also writing to WIPO and the U.S. PTO, asking them to reject the patent on the grounds that it is contrary to *ordre public* (public morality and safety). Later this month ETC Group will attend Synthetic Biology 3.0 (an international conference of synthetic biologists) in Zürich, Switzerland June 24-26 where it will call upon scientists to join in a global dialogue on synthetic biology. ETC will organize meetings with governments and civil society during the upcoming scientific subcommittee meetings of the UN Convention on Biological Diversity (CBD) in Paris, July 2-6, in order to discuss the implications of the creation of synthetic life forms for the Biodiversity Convention and for its protocol on biosafety. ETC Group will convene a global meeting of civil society actors on this and related issues within the next year.

Notes to Editors: See attached backgrounder.

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