Project Recode: Can we create synthetic ‘superhero’ human cells immune to viruses, cancer and aging?

Recently, roughly 200 eminent scientists assembled in Boston. Their agenda? Creating “superhero” human cells impervious to all viral attacks and possibly other killers—radiation, freezing, aging, or even cancer.

The trick isn’t super-soldier serum. Instead, the team is relying on tools from synthetic biology to read the cell’s genetic blueprint and rewrite large chunks of the genome to unlock these superpowers.

“There is very strong reason to believe that we can produce cells that would be completely resistant to all known viruses,” said Dr. Jef Boeke, a geneticist at New York University.

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But the team’s main goal isn’t a super-cell. Rather, they’re hoping the project, dubbed “Project Recode,” will develop a whole suite of molecular tools that enable scientists to write their own code into existing genomes—or fabricate entirely new artificial genomes.

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“Recoding every protein in the human genome, for example, would require 400,000 changes” in 20,000 human genes, explained [geneticist George] Church in a press release.

That’s why the team is looking to synthesize a genome from scratch, rather than making individual edits with CRISPR or other tools.

As Boeke colorfully said, “It’s like if you’re editing a short story: if you’re changing so much of it, you might as well just rewrite the whole damn thing.”

Read full, original post: Scientists Kick Off Synthetic Biology Project to Make Virus-Resistant Super Cells