



Synvivia builds protein switches to control the behavior of engineered organisms

Challenge

Synvivia needed an IP partner to draft their patent applications quickly, cost-effectively, and thoroughly to capture the value of the deep tech startup.

Outcome

Cognition IP drafted Synvivia's initial patent application within weeks and conducted a patentability search on new technologies to direct the company's IP portfolio development.

Introduction

Synvivia is a biotechnology startup that builds protein switches to control the behavior of organisms. The engineered switches act like biological transistors and can be turned on and off with synthetic chemical inputs. When installed into living cells, Synvivia's protein switch technology can impose chemical control over nearly any aspect of biological function. This provides a practical genetically-encoded control and containment solution for engineered organisms.

Synvivia develops the first commercially available genetically-encoded biocontainment system

Synthetic biology demonstrates great promise across industries, such as in the field of therapeutics, where genetically modified organisms have been developed to treat obesity and cure cancer. However, much of this biotechnology remains unused because engineered organisms are difficult to control. These organisms have been evolutionarily optimized to survive and replicate rather than do the bidding of humans. This has contributed to an underlying fear that new

capabilities may escape their intended bounds. Synvivia's protein switch solves this problem by imposing chemical control over biological function and survival; organisms with Synvivia's technology can be shut down and safely contained. This provides enormous value to companies that are developing organisms as products where safety is critical.

"Synvivia aims to transform synthetic biology in the same way that the transistor revolutionized electronics," says Dr. Gabriel Lopez, Founder and CEO of Synvivia. Dr. Lopez obtained his Ph.D. in Bioengineering from The University of California, Berkeley. As a Ph.D. student, Gabriel developed a series of novel protein engineering methodologies to impose post-translational control over protein function. This groundbreaking work was selected as Editor's Choice in Science Magazine, published in the ACS Synthetic Biology journal, and patented. In his Postdoc, Dr. Lopez developed new protein engineering architectures and workflows, while engaging with companies that required a practical biocontainment solution.

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Dr. Gabriel Lopez
- Founder and CEO, Synvia

“I am a huge booster of Cognition IP and would recommend them to anyone because they understand that writing IP is hard and they bring the sort of relentless startup mentality that gets the job done.”

Cognition IP files patent on Synvia’s technology during early stages of commercialization

In 2016, Dr. Lopez founded Synvia to commercialize the technology that he perfected during his Doctoral and Postdoctoral research. He knew right away that protecting the young company’s intellectual property would be foundational to its success. Dr. Lopez explains, *“I invented a variety of technologies during my academic and startup careers. I understand the importance and challenges of drafting good IP on the first time around.”* His evaluation and selection criteria for a law firm partner was well-defined: *“Fast, cost-effective, and thorough IP development.”* Cognition IP surpassed this rubric.

Synvia began its engagement with Cognition IP in 2018. The company needed a patent drafted quickly and cost-effectively. Dr. Lopez was impressed by the quality of the application that Cognition IP prepared and the ease of the partnership. He states, *“Everything was seamless. It was a very efficient process with a personal touch.”* The company’s IP protection proved valuable in conversations with seed investors as well. Dr. Lopez emphasizes, *“As a deep tech startup, building new technology is hard, requires significant investment, and requires patent protection to successfully commercialize. Without IP, revolutionary technologies have a challenging path to market, especially in highly regulated industries.”*

Cognition IP conducts patentability search and analysis to direct Synvia’s IP portfolio development

After a successful first project, Synvia engaged Cognition IP for a patentability search. The company wanted to ensure a clear IP landscape to inform the development of its next-gen technologies. Cognition IP conducted a patentability search and analysis and presented the results to Synvia. Based on the opportunity areas identified in the analysis, Cognition IP drafted two additional patent applications for the development of Synvia’s IP portfolio. *“It’s obvious that Cognition IP understands the deep tech startup mindset,”* states Dr. Lopez. *“And I appreciate the two-way feedback in IP development.”*

Synvia’s partnership with Cognition IP is ongoing. Says Dr. Lopez, *“I am a huge booster of Cognition IP and would recommend them to anyone because they understand that writing IP is hard and they bring the sort of relentless startup mentality that gets the job done.”*