

# REJUVENATION TECHNOLOGIES



Rejuvenation Technologies is extending  
telomeres to extend the human  
healthspan

## Challenge

Rejuvenation Technologies needed several patent applications to be filed with limited resources before a crucial fundraising round.

## Outcome

Cognition IP offered Rejuvenation Technologies price predictability while drafting and filing their patents within a matter of weeks before the fundraising milestone. The company has engaged Cognition IP for freedom-to-operate searches and ongoing portfolio development.

## Introduction

Rejuvenation Technologies is developing the first safe and effective telomere extension technology

Rejuvenation Technologies is a biotechnology startup seeking to extend the human healthspan by extending telomeres. Telomeres are repetitive DNA sequences at the ends of a chromosome that protect it from deterioration. As cells naturally divide, telomeres shorten, and short telomeres are a major cause of aging and disease. Research suggests that individuals with longer telomeres live longer than those with shorter telomeres, on average (Rode, 2015), and that short telomeres correlate with early death, hypertension, cardiovascular disease, cancer, chronic infection, and diabetes (reviewed in Weischer, 2014).

To combat telomere shortening, Rejuvenation Technologies is developing a telomere extension treatment. The company's technology extends telomeres by delivering mRNA encoding telomerase reverse transcriptase (TERT), the enzyme that naturally extends telomeres. The delivery of TERT mRNA to cells sufficiently extends telomeres within days to reverse over a decade of telomere

shortening during normal aging. The treatment does not immortalize cells, and immediately after telomeres are extended, they resume shortening at their normal rate. This is critical to patient safety, making TERT mRNA the first safe and effective telomere extension technology.

Human telomeres were first extended artificially in 1998. This incredible feat inspired John Ramunas, a 4th-year Electrical Engineering student at the time, to switch his major to Biochemistry. John later read about cutting-edge work being done at Stanford on rejuvenating old mice. He applied and completed his Ph.D. in the lab of Dr. Helen Blau, whose work he had read about.

*"My desire to extend telomeres to extend the human healthspan aligned with Dr. Blau's desire to extend telomeres to treat Duchenne muscular dystrophy and we came up with the approach that is now the foundation of our company."*

"We were impressed by Cognition IP's approach of applying technology to improve the quality of IP, efficiency, and client experience."



Dr. John Ramunas  
- Co-Founder,  
Rejuvenation Technologies

"Cognition IP's biggest value-add has been removing the time, cost, and psychological barriers to efficiently building our IP portfolio."

Dr. Ramunas launched Rejuvenation Technologies with Dr. Blau in 2018. The company's founders knew that intellectual property protection would be critical to fundraising. Says Dr. Ramunas, *"IP protection is important as a startup company in drug development because it enables raising the necessary early-stage funding to traverse the so-called 'valley of death,' the stage between an initial promising discovery of a potential drug and obtaining sufficient funding to perform clinical trials. With IP protection, promising drugs can be developed and ultimately reach patients."*

Rejuvenation Technologies had an urgent need to file patents, but limited funding. The company turned to their trusted Y Combinator network and vetted Cognition IP, ultimately entrusting the Cognition IP legal team with their first patent application. Dr. Ramunas describes his confidence in the company's selection of a legal service provider and ease of partnership, saying, *"We were impressed by Cognition IP's approach of applying technology to improve the quality of IP, efficiency, and client experience. The onboarding process was effortless, involving an introductory phone call and signing the engagement letter. We hired them for our first patent application and the process was easy: Cognition IP emailed us a list of straightforward questions that we were able to answer quickly, and then Cognition IP drafted an excellent patent application within a few weeks. Cognition IP was quick to respond to our questions and they filed the application for us shortly thereafter."*

### Cognition IP removes barriers to efficient building of an IP portfolio

While the patent application process was familiar to Dr. Ramunas, the benefits of working with a modern, tech-enabled law firm were completely unfamiliar. Dr. Ramunas had worked with traditional law firms on matters related to intellectual property while at two universities. He says, *"In those cases, the process took longer. Cognition IP is very efficient while maintaining high quality. The quality of their work throughout has been consistently excellent, and they achieved this cost-efficiency unmatched elsewhere to our knowledge."*

With the company's first patent application filed, Rejuvenation Technologies engaged Cognition IP for a second patent application soon after. The speed and efficiency of the filings was essential in helping Rejuvenation Technologies to raise its seed round. *"We also engaged Cognition IP for two freedom-to-operate searches that were comprehensive, clear, and valuable,"* Dr. Ramunas shares. Now, Rejuvenation Technologies is working on its third patent application with the Cognition IP team. *"We anticipate the greatest value will be realized as we grow our patent portfolio with Cognition IP efficiently and cost-effectively. This will enable us to establish our target IP position earlier than would otherwise have been possible due to our status as a startup company."*

Rejuvenation Technologies has launched a co-development program and is moving rapidly toward clinical trials. The company's founder is grateful to have an IP partner that can operate at the same speed and fast track its success. *"Cognition IP's biggest value-add has been removing the time, cost, and psychological barriers to efficiently building our IP portfolio. Knowing that any time we improve our technologies we can protect that IP with a very low-friction process is highly conducive to innovation and commercialization."*