Kari Sarvanto – CEO & Founder, Cancer Research and Biotechnology AG (CRAB)



Cancer is potentially reversible before it becomes a tumour, offering both hope and the possibility of prevention

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Kari Sarvanto outlines his journey from leading PRIMEX to establishing CRAB, a preclinical oncology company focused on non-toxic cancer treatments. Sarvanto highlights his strategic leadership background, the innovative approach of targeting metabolic dysfunctions in cancer, and the promising progress of their lead drug, CRB091, particularly in treating aggressive cancers like Triple Negative Breast Cancer.

What inspired your transition from PRIMEX to founding CRAB, and how has your background influenced this journey?

My journey began as a Naval Officer in Finland, where I not only gained leadership experience but also studied law and economics. After the Navy, I transitioned into management consulting, specializing in leadership and strategy execution.

Through my consulting work, I became familiar with the pharmaceutical industry. Half of my clients were major pharmaceutical companies, and I built strong relationships and trust within the sector. This naturally paved the way for my shift into entrepreneurship in 2009, when I founded PRIMEX (Primex Pharmaceuticals Ltd), a company focused on anesthesia. At PRIMEX, we successfully acquired Propofol from Bayer and later developed Ozalin, which gained European marketing authorization in 2018.

By the end of that year, I felt it was time to explore new opportunities. I constantly thought about a groundbreaking research idea that was the catalyst for founding CRAB in Switzerland. CRAB is a preclinical oncology company focused on developing novel treatments for aggressive cancers, particularly Triple Negative Breast Cancer (TNBC). What sets us apart is our approach, which targets cancer cells without causing damage to healthy cells. This is a significant departure from traditional treatments, which often harm patients as much as they help them. Our lead drug, CRB091, is showing great promise in preclinical trials, and we are now preparing for clinical trials.

What inspired your decision to focus on CRB091 and how is CRAB addressing the significant challenges in cancer treatment?

The inspiration behind CRAB stems from personal experiences and extensive research. Cancer has profoundly impacted my family—my grandparents and parents passed away from it. For example, my father had melanoma, and nearly 40 years later, the cancer reappeared as metastasis. His case fascinated doctors because they couldn’t locate the primary tumour, proving that the cancer had been lying dormant for decades. This experience underscored my belief that one of the key missions in cancer treatment should be to prevent recurrence and metastasis. Toxic treatments, such as chemotherapy, are not a viable long-term solution, as they take a heavy toll on the body. Non-toxic therapies, however, offer the potential to suppress cancer without ongoing damage to healthy cells.

CRAB was founded in January 2019, and for the past five and a half years, we have dedicated ourselves to developing therapies that challenge traditional cancer treatment approaches. While other areas of medicine—like infectious diseases and heart conditions—have seen significant reductions in mortality rates, cancer remains an outlier. Research has demonstrated that cancer is not solely a genetic issue; rather, it is a problem of cellular metabolism.

Our lead drug, CRB091, stands out from traditional oncology treatments because it targets the metabolic roots of cancer without relying on toxic interventions. Conventional treatments, such as chemotherapy, are often associated with severe side effects and high costs, whereas CRB091 offers a non-toxic alternative with the potential not just to treat but to prevent cancer recurrence and metastasis. This is particularly critical in aggressive cancers like Triple Negative Breast Cancer (TNBC), where metastasis is the primary cause of death. By delaying or even preventing the spread of cancer, CRB091 offers a fundamentally different approach to cancer care, focusing on maintaining health and preventing disease advancement.

With our approach, treatment can begin immediately, reducing the risk of metastasis without damaging healthy cells or compromising the immune system. By providing a non-toxic, early intervention option, we are rethinking how aggressive cancers like TNBC can be managed, offering patients a better chance at survival while minimizing harmful side effects.

What progress have you made with CRAB's lead drug, CRB091, in treating Triple Negative Breast Cancer (TNBC), and what are the next steps?

CRB091 has shown highly encouraging results in our preclinical studies, particularly for Triple Negative Breast Cancer (TNBC), one of the most aggressive and difficult-to-treat cancers. Choosing TNBC was a straightforward decision from an ethical standpoint, as survival rates for advanced stages hover around just 12%. The disease also predominantly affects younger patients—about 70% of those diagnosed are between 20 and 50 years old. This makes the need for innovative and effective treatments urgent.

Over the past five and a half years, we've rapidly progressed through preclinical and translational research. One of the key breakthroughs is that CRB091 has demonstrated a strong safety profile—it is non-toxic, and we anticipate minimal adverse effects. This conclusion comes from both our internal research and third-party studies. We've also seen strong efficacy in reducing cancer cell viability, particularly in TNBC and colorectal cancer (CRC).

We are now moving toward human trials, which is a major step forward. While the scientific research has almost been completed, there remains a rigorous regulatory process to navigate. The submission to regulatory bodies like the FDA or EMA involves vast amounts of documentation, including detailed reports on manufacturing quality and safety. However, because our drug has proven non-toxic, we expect to move through certain stages more quickly, as we won't need to address the complex toxicology requirements typically involved in oncology drugs.

The next phase also involves evaluating how our treatment interacts with existing cancer therapies, particularly chemotherapy. Almost all cancer patients undergo chemotherapy, so understanding how our drug can complement these treatments as an adjuvant therapy is crucial. We are focusing on real patients rather than healthy individuals, as this will provide more meaningful insights into how our treatment can be used in conjunction with chemotherapy.

Preliminary findings suggest that our treatment can reduce the side effects of chemotherapy, potentially allowing for higher doses or longer treatment durations, which could significantly

improve patient outcomes. This approach is similar to how Herceptin works, which has been shown to enhance chemotherapy effectiveness by around 9%. While 9% might not seem like much, it can have a profound impact on survival rates. We believe that our treatment could achieve even better results, without introducing additional side effects, making it a highly promising option for long-term cancer management.

How do you plan to accelerate the regulatory approval process for CRB091?

We are focused on utilizing accelerated regulatory pathways, such as fast-track or orphan drug designations, given the promise CRB091 shows in treating cancers with few existing treatment options. In addition to TNBC, we've expanded our research to include colorectal cancer (CRC) and pancreatic cancer (PC), both of which present significant treatment challenges. Furthermore, we are exploring the potential for CRB091 in treating rare cancers, including advanced melanoma and other orphan diseases. Achieving orphan drug designation would grant us market exclusivity for up to 10 years, offering both regulatory advantages and investor incentives, as no other drugs would be approved for the same indication during that period.

Our regulatory strategy is global. Although we are headquartered in Switzerland, we plan to file in parallel with regulatory bodies across major markets, including the U.S. and Europe. The global nature of our patents ensures that CRB091 will have a broad reach. Additionally, the simplicity of our manufacturing process—given the non-toxic nature of the drug—opens the possibility of expanding production to regions like Africa, where access to cancer treatment is severely limited. While this vision is part of our long-term goals, we already have interest from impact investors who are keen to support initiatives that can bring cancer care to underserved regions.

How are you approaching the funding strategy for CRB091?

Our funding approach is based on two crucial elements. First, we've significantly reduced the typical risks associated with drug development. In oncology, the greatest risk usually emerges in late-stage clinical trials when adverse effects can outweigh the benefits, potentially halting the entire project after substantial investment. We've minimized this risk by demonstrating CRB091's strong safety profile in preclinical studies, indicating that the likelihood of severe adverse effects is very low. Moreover, we are using well-researched active pharmaceutical ingredients that are approved safe, further de-risking the process.

Second, our funding needs are considerably lower than most oncology projects, primarily because we anticipate being able to combine phases 1 and 2 in the clinical trials, involving a relatively small number of patients. CRB091's mechanism, which affects metabolic processes rather than specific protein interactions, allows us to explore multiple cancer indications. Depending on the level of investment, we could expand trials to include various cancer types. Additionally, securing orphan drug designation first would accelerate the regulatory process, granting market exclusivity and helping us reach patients more quickly with a clear, streamlined pathway.

The response from private investors has been positive, though our innovative approach sometimes challenges traditional thinking within the oncology sector. Many stakeholders are accustomed to long, costly drug development processes with high risks. CRB091, by contrast, offers a streamlined, lower-risk model. We believe CRB091 can redefine how cancer is treated, shifting the focus toward long-term, non-toxic management of the disease.

How has Switzerland's ecosystem contributed to CRAB's development, and how have collaborations supported your progress?

Switzerland has provided an exceptional environment for CRAB's growth, particularly through its access to world-class expertise. We've been fortunate to collaborate with leading specialists in toxicology, microbiology, and regulatory sciences, whose contributions have been pivotal in moving our work forward. Many of these experts have supported us pro bono, providing critical guidance on areas beyond oncology, including drug safety and regulatory pathways. This network of professionals has been instrumental in ensuring that we stay on the right path from the beginning.

Our approach enables us to accelerate the path to patients, and it's largely thanks to Switzerland's proximity to top talent—whether it's meeting mitochondrial researchers in Geneva or working with patent attorneys, everything is just a short distance away.

What major milestones do you expect to achieve in the next three to four years?

In the next three to four years, we aim to make significant progress in several key areas. Our first priority will be to finalize our research on the diseases we're targeting, such as Triple Negative Breast Cancer (TNBC), colorectal cancer, and orphan drug indications. The decision on orphan drug designation is imminent, and once that is secured, we will begin focusing on the necessary regulatory work and CMC (Chemistry, Manufacturing, and Controls) processes, which cover

manufacturing preparations and filing requirements. This will set the foundation for human studies, which we plan to undertake over the next two years. The estimated cost for this phase is approximately four million USD—a relatively small amount, especially since the drug's safety has been established.

After completing this groundwork, we'll move forward with our first human trials. We have several innovative regulatory strategies to streamline this process and plan to approach it from a global perspective. Patient recruitment, particularly in the U.S., can be a challenge, but we've identified strategic solutions to address this. Our goal is to ensure that the studies we conduct meet Western standards, ensuring credibility and allowing for international collaboration.

Once we demonstrate early efficacy and, as anticipated, no meaningful side effects, we'll reach a crucial value inflection point. At this stage, we expect the value of the product to increase substantially, with patients experiencing both high safety and high efficacy. This is where we'll focus on convincing investors of the minimal risks involved and the considerable potential. The valuation of the product at this point could range from 100 million to half a billion USD, depending on market conditions and strategic partnerships.

Regarding partnerships, we've already initiated discussions with mid-sized pharmaceutical companies. While larger pharma companies tend to be more cautious with disruptive innovations, some mid-sized firms have approached us, and they are often more willing to embrace new products. These partnerships will be essential, allowing us to maintain our focus while benefiting from their resources. Starting these conversations early is critical to ensuring that by the time we reach key milestones, these relationships are well-established.

What is the final message you'd like to leave with our audience, and is there anything important you'd like to add?

If there's one key takeaway, it's that cancer is potentially reversible before it reaches the stage of becoming a tumour. This opens up the possibility not only for treatments but also for prevention. What's even more important is the hope this provides.

My greatest wish is that we eventually reach a point where we're not treating cancer patients, but instead, helping people understand how to prevent cancer from developing in the first place. By focusing on metabolism, supporting mitochondrial health, and minimizing exposure to carcinogens, people can significantly reduce their risk of cancer, potentially delaying its onset by a decade or

more.

Even at the genetic level, where cancer typically makes its final changes, there is hope. Most of these changes are epigenetic, meaning they don’t involve permanent alterations to the genetic code. Instead, genes are often switched “on” or “off” inappropriately. The good news is that epigenetic changes are reversible. So, even at the most advanced stages of cancer development, there is still potential for reversal. This sense of hope and possibility is what motivates us and drives the work we do every day.

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