WHAT IS THE STORY OF A PHARMA STARTUPPER?

In order to better understand the place and the goals of CarboHyde, a private preclinical pharma startup from the EU, a short interview was performed with József Tóth PhD, Founder and CEO of CarboHyde

What's your story and how did you become an innovator in healthcare?

During the years I spent at the Semmelweis University as a med student all my favorite subjects originated from cell biology. I was eagerly waiting for physiology lectures where the professors explained us how the signaling pathways and living cells work, and how they act together to form organs and the whole human body. Then later during pharmacology courses I was fascinated again, to see how we can treat pathophysiological conditions sometimes with giving only one single molecule acting on one single receptor. After finishing the PhD, my interest in applied pharmacology led me to specialize in anesthesia and intensive care, which is one of the fastest-growing field of medicine. As an anesthetist and intensive care specialist, I could look closely at how one single molecule, namely Sugammadex, a carbohydrate derivate revolutionized the safety of anesthesia. Meanwhile, I was always interested in entrepreneurship, how a dedicated group of people can bring a new idea to the market. This process might look very easy to anyone, watching the nowadays popular startup TV shows, but now I can tell you, the reality cannot be further away from truth. It is a very nice and rewarding, but also a challenging journey as well. So we established a company and now here at CarboHyde, surrounded by world-class researchers, chemists, pharmacists and engineers, I feel fortunate to have the opportunity to combine these two interests of mine.

Can you tell a bit about your company, CarboHyde?

CarboHyde is a pharma start-up, developing carbohydrate-based APIs for different target indications and other innovative applications like gene-delivery or using them in vaccines. We also see other companies with similar interests as an ecosystem and support them with our knowledge on this field as a contract research organization. We founded CarboHyde not so long ago, but the senior colleagues have been working together on this field for 10+ years.

As a CRO in the pharma industry, we only focus on the most complex synthetic chemistry issues our fellow innovators face with their carbohydrate or cyclodextrin based drug development programs.

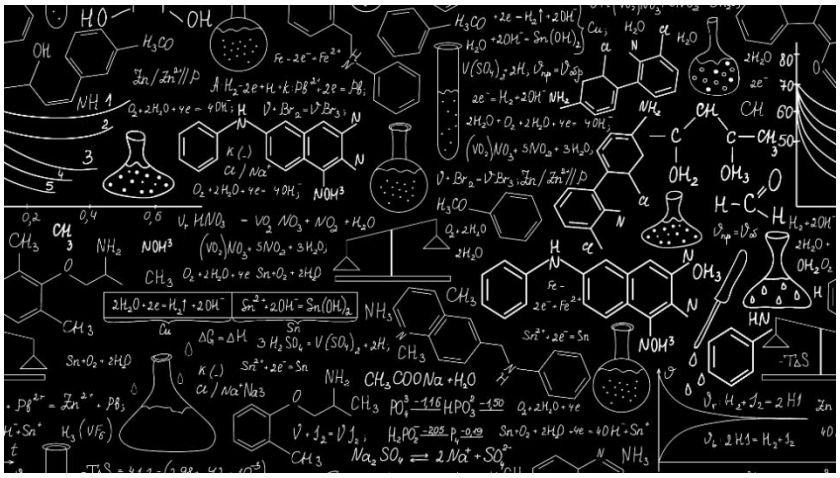
Our main aim however, is to develop our own carbohydrate based APIs, focusing on rare diseases and neurodegenerative CNS indications and an RNA delivery platform. We continuously looking for partners to collaborate on developing new therapeutic solutions in this field. So if any of our readers are one of them, they shouldn't hesitate to contact us.

What I would like to highlight for the readers is my personal belief on the importance of the right company culture, especially because our innovation focused company is based on our colleagues' exceptional brain power. So we build a very flat, administration free culture, where we spearhead values like love of work, autonomy, freedom as well as results orientation and responsibility. Our internal processes are all transparent and everyone completely understands our mission and what it takes to get there, then embraces the responsibility to make the right decisions. And we trust our people to make the rights ones.

And why carbohydrates, what are so interesting in these molecule family?

Because my previous supervisor deals with lipids, my sister does research about proteins and my brother-in-law is an expert of nucleic acids so that remains for me (smiles). Of course that's just a joke.

I think people underestimates the role of carbohydrates in physiological processes and simplify them as only energy source or structural molecules but the reality could not be farther from that. I do believe that these ubiquitous building blocks of life are one of the most challenging biomolecules to manipulate due to their structural diversity and complexity. Now there are widely used carbohydrate-based drug families on the market, like deoxy sugars or amino sugars. Yet, carbohydrate based API development is still a fast growing area, including special types of carbohydrates to treat rare diseases, like Niemann-Pick type C or Fabry disease. We are fond of these compounds, enjoy the challenge it takes to work with them and believe that there is still a lot to learn in this area. And learning, evolving is our daily feed.



What are the company's short and longer-term goals?

Before answering your question, I want to highlight how proud I am for the results we have achieved in this year already. It is important to talk about the future, but it is equally important to look back and be proud of what we have already achieved – for me this provides a source of energy, like my morning coffee with a high dose of carbohydrate. So this year we have already managed to attract some internationally renowned scientists into the team, expand our pipeline program as well as successfully apply to an EU grant. I believe these are great results.

But as a real startupper, I am ready to talk about our plans for hours (smiles). The shorter version is, that our long-term goal is to hold 5+ patent families for different

compounds, sponsor early stage clinical trials and be a key-opinion leader in carbohydrate chemistry and drug development.

To achieve this, in the next 2-3 years we will grow in size, strengthen our CRO arm and start focusing on our pipeline program. In addition we have been already developing certain capabilities in house, which we outsource at the moment – like carbohydrate analytics, which requires a kind of unique expertise.

As a pharma startupper what advice do you have for others just starting out in this space?

First of all do not underestimate the work ahead. There are several very good books on the market which can give useful advices how to treat the expected difficulties, I read a lot of them and enjoyed it. But no matter how many books you read about those topics, new and new unexpected challenges will come across, and one person alone cannot deal with all of them. So let's find those people who are smart, of course, experts in their fields, but also whom you can get along as human beings and who strongly believe in the projects you have. If you can gather people you can trust and can focus on each other's strength and enhance them, then together sooner or later you can handle these challenges. And when you feel exhausted, you should know and practice where you can have extra energy from – if it is your morning coffee with 3 spoons of carbohydrate or pursuing your hobby it doesn't matter.

For more information: www.carbohyde.com

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