



Bulgarian co-virus molecule maker steps up research, attracts foreign investor interest

Micar Innovation (Micar21) discovers three new promising molecules to attack COVID-19 as Bulgarian government is slow to support what may be the greatest achievement in the country's modern science history.

Bulgarian scientists, part of biotech startup Micar Innovation (Micar 21), have discovered two more molecules that showed "extremely promising" results in tests against the coronavirus. The company continues to work actively on its project to find a cure for COVID-19, the disease caused by the novel virus behind the 2020 pandemic, but has warned further tests need financing that the Bulgarian government has been hesitant to provide. Unlike foreign investors.

The triple approach

"We are working actively on developing drug molecules based on what we call a "triple approach", said Dimitar Dimtrov, Co-Founder and CEO of Micar21. The approach was developed based on ongoing in-depth monitoring and analysis of new COVID-19 research papers and experience worldwide.

Micar21's unique advantage lies in their patented drug discovery platform that combines AI and scientific research to deliver streamlined, highly-optimized, and, most importantly today, fast Micar Innovation (Micar21)

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(Source: MassMedia Foundation, author: Tzvetina Borisova)



results. Another advantage of the startup today is its market niche - the so-called "orphan diseases" – rare conditions with a market share that is traditionally not large enough to attract support and resources for discovering treatments.

From the very beginning, Micar21's team has been concentrated on the CCR1-CCR10 cellular receptors, which control the migration and positioning of immune cells in tissues and are critical for the function of the innate immune system. Two of these receptors in particular, CCR5 and CCR7, have certain mutations that make individuals with these mutations resistant to diseases such as HIV. CCR5 has been at the core of Micar21's research, and the company already has a breakthrough with a novel drug molecule for the treatment of chronic pain. The project belongs to Bolka Pharmaceuticals, a Micar21 spin-off that develops MIC4578 drugs.

This molecule is the second element of Micar's "triple approach", as, after slight modification, it has demonstrated promising results against the coronavirus. The third element is a molecule that reacts similarly, blocking the virus from penetrating the human cell.

All three molecules can be used to treat all existing coronaviruses and flu viruses, Dimitrov noted.

Steps ahead

The next logical step in Micar21's project is to synthesize the three molecules and launch the preclinical studies, involving in vitro and animal experiments before the drug can be tested on humans. This phase is expected to take eight months. The first, second, and third clinical phases, involving testing on humans, are set to last six-to-eight months. Overall, the whole process can be completed within 18 months at the shortest.

The great financing conundrum

"Our future work requires huge investments that we are in the process of negotiating", Dimitrov pointed out, noting that the preclinical research stage will cost about EUR 4 million.

So far, Micar21 has invested over 1 million euros of own funds in its projects, which include 18 molecules for seven therapeutic fields. Its resources, however, are finite. Moved by their sincere wish to benefit their homeland, the company has been actively looking for the Bulgarian government's support.

"We had a lot of contacts with Bulgarian institutions on all levels, but unfortunately, biotech is not popular and properly-recognized in Bulgaria," said Dimitrov. "Automatically, this means Bulgarian institutions make fish of one and flesh of the other – both before the crisis and now."

"We wanted to make a great, good story with a project, financed by the Bulgarian government in return for part of the patents that would be generated. We wanted to work together with all scientists in Bulgaria and utilize all possible local laboratories. Unfortunately, the government has failed to meet these needs so far," Dimitrov added.

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Micar21 also applied for EU funding under the EIC Accelerator, part of the European Innovation Council (EIC) pilot that supports top-class innovators, entrepreneurs, small companies and scientists with funding opportunities and acceleration services. However, EU funding procedures are notoriously slow, with actual work (if their bid is successful) not expected to start before the fall of 2020. Meanwhile, the team does not believe humanity has so much time to wait amid the current COVID-19 crisis.

Investors step in

Amid the ongoing seeming indifference and lack of any initiative or reaction on the part of the Bulgarian government and EU authorities, investors have stepped up their game.

"We have been approached by over five investment groups," said Dimitrov, adding that serious negotiations are currently underway with a huge project in the US. The Americans insist on buying Bulgarian molecules as tests in international laboratories have shown "first-in-class" results.

With funding expected one way or another, the company has already organized the clinical phases of the testing with a partner who has carried out clinical research in previous epidemic crises, including MERS, EBOLA, etc.

This is good news. But there is also bad news – and it has to do with the fact that if the US pay the bill, they will get the patent and Bulgaria will be left outside of the whole picture.

"I feel frustrated because I really wanted to create a good story here a month ago. We could have been much farther ahead in the validation and we could have demonstrated that Bulgarians could be united in times of hardship," said Dimitrov.

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