

# Valuable and versatile tools for Saudi Arabia's future

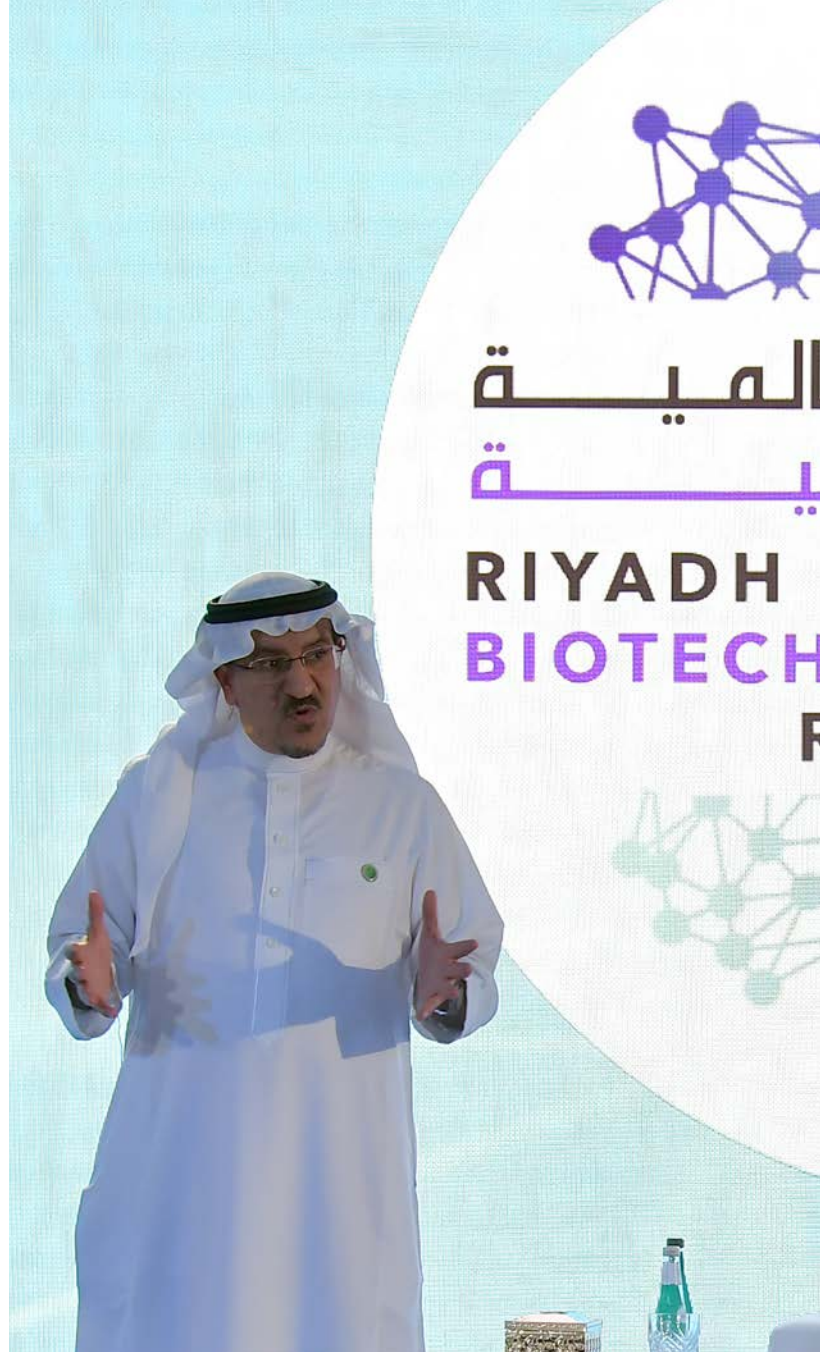
A conversation with Ahmed Alaskar, executive director of KAIMRC

**A**hmed Alaskar is a professor and consultant in haematology and stem cell transplantation, and has been a significant figure at KAIMRC for the past 10 years. He reflects on the blossoming biotechnology industry in Saudi Arabia, its strong links with academia, and how biotechnology will help bring many of the Kingdom's ambitious plans to fruition.

## How has medical biotechnology research in Saudi Arabia changed in the last 10 years?

Biotechnology is now a key focus for the Kingdom, in line with Saudi Arabia's Vision 2030. The country aims to move from an oil-based economy towards a sustainable and resilient economy that will enable it to thrive long into the future. To achieve this, our population needs excellent healthcare and medical technologies, and this is where our innovative research and development programmes in medical biotechnology come to the fore.

Vision 2030 encourages academics, industry representatives and scientists from all backgrounds to collaborate on translational research. KAIMRC is a leader in this regard – after years of producing high-quality publications and focusing on basic research in the medical and life sciences, we are now actively pursuing the transformation of that knowledge into tangible, viable products that will boost the Kingdom's healthcare system.



## Which biotechnologies are a focus for KAIMRC?

Our ultimate goal is to improve the health of the population, and this means developing novel therapies for multiple conditions. We are building a strong reputation in drug discovery and diagnostics, and are screening thousands of molecules for potential candidates. These discovery pipelines are strongly supported by the artificial intelligence and computational biology units here at KAIMRC, and these technologies have really come into their own during the COVID-19 pandemic.

Our facilities allowed us to sequence the whole genomes of the COVID-19 strains circulating in Saudi Arabia in-house. Our AI specialists were able to match screened molecules to potential viral targets. These results have since been taken forward into drug development and clinical trials, and initial results have just been published. Saudi Arabia has also been dealing with another coronavirus, MERS-CoV. KAIMRC scientists have been working alongside researchers at the University of Oxford since 2015 to develop a MERS-CoV vaccine. The latest clinical trials for this



vaccine candidate demonstrate that it has an excellent safety and immunogenicity profile.

### **How has KAIMRC's biotech strategy changed because of the pandemic?**

The COVID-19 pandemic has obviously had hugely negative consequences across the globe, but it has also led to significant gains in the medical and biotechnology fields. We have witnessed an unprecedented acceleration of research and technological development over the past two years. We have learned that it is possible to streamline research that often takes 10 or 20 years into the space of a year. The insights gained from this pandemic will filter out into all manner of other medical advancements, and KAIMRC's research strategies will evolve to keep pace. It has been a true honour for KAIMRC to be a part of the collaborative efforts of scientists across the world. From the moment the first whole genome of the virus was shared publicly, scientists have come together to solve problems and

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understand the virus more rapidly than at any other time in history. When you bring together all the diverse experiences and capabilities of the world's scientists to focus on one goal, it is astonishing what can be achieved.

### **How can medical biotechnology help boost recovery from the pandemic?**

As researchers, we create the roadmap that we think medicine and clinical healthcare should follow. Our experiences with COVID-19 mean that we are better prepared than ever before for any future novel pathogens that might come our way. But there are also many thousands of existing pathogens – bacteria and viruses – that we know very little about. Once we have the genetic fingerprint for a pathogen, it can provide us with so many details.

We now have the computational abilities to analyse viruses and bacteria rapidly, accurately, and in all their incredible complexity. In this way, we can reduce deaths from many diseases, improve health policies and public education, and above all, boost quality of life.

### **How will the biotechnology industry evolve in the next 10 years in Saudi Arabia?**

Vision 2030 inspires us to achieve several goals, including enhancing the health of the population, improving quality of life and diversifying our economy. Biotechnology hits all these targets. Economy and health are two sides of the same coin. The development of high-quality biotech products not only serves the population, but provides a sustainable source of income for the country. This then improves quality of life – not just for the people of Saudi Arabia, but for populations across the world. Biotechnology development goes hand in hand with improved efficiency and effectiveness, and provides a valuable set of tools for our country's future.

