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“We aim to position India as a leader in personalised medicine and drive future innovations”

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The landscape of cell and gene therapy (CGT) in India is rapidly evolving, with significant advancements poised to revolutionise patient care. At the heart of this transformation is Miltenyi Biotech India, a pioneering force dedicated to bringing cutting-edge technologies and training to the region. In an interaction with BioSpecturm India, Priya G Hingorani, Managing Director of Miltenyi Biotech India, discussed the company's new state-of-the-art innovation and training centre in Genome Valley, Hyderabad, and explored the future of personalised medicine in India.

Congratulations on the launch of the Miltenyi Innovation Technology Centre (MITC)! What inspired the creation of this facility at Genome Valley, Hyderabad?

Thank you. Miltenyi Biotech has been pioneering CGT for over 35 years, starting with a small cell separator and growing into a leader in innovation. Recognising India's potential in advanced medical treatments, we saw the need to educate researchers and partners on specialised equipment and evolving therapies.

This led to the establishment of a state-of-the-art training centre in Hyderabad, where scientists from India and beyond can gain hands-on experience. Our goal is to provide comprehensive training, enabling researchers to advance CGT. By offering access to cutting-edge equipment and expertise, we aim to position India as a leader in personalised medicine and drive future innovations in this field.

What new technologies are you bringing to India? Could you elaborate on some of the key technologies that make your centre a leader in CGT?

Our centre is equipped with the newest and most advanced machines for CGT. One of our key pieces of equipment is the Prodigy. It's the size of a large microwave; and it’s a fully automated system that can take cells, process them, and create a new finished product or a new cell. Scientists can programme the machine with specific instructions and ingredients to make therapies like CAR T cells, T cells, or other cells that help patients fight cancer using this advanced technology. Right now,

we're focused on cancers that affect the blood, like leukemia and lymphoma, but we're also exploring other possibilities.

We also have other machines that help scientists with specific tasks. For example, the CliniMACS Prodigy is excellent for separating cells, which is a very technical process. Once a scientist isolates a cell, they need to figure out what type of cell it is and how many they have. Our machines help them do this accurately and precisely.

We're also introducing new technologies like Taito and Blaze. Blaze is a revolutionary machine for spatial biology. Imagine being able to see inside a living organism, like a rat or mouse, as if you were walking through it. This machine allows scientists to see exactly how molecules work, which cells are affected, and what treatments might be effective. These machines will be available in India very soon, as we're committed to giving Indian scientists access to the latest global advancements.

You mentioned presenting CAR T-cell therapy at a medical conference. Beyond that, what are the primary research areas you're focusing on in India?

Currently, we haven't launched any CGTs for sale in India or anywhere else in the world. However, we are working on bringing CAR T-cell therapy to market, which we recently presented at a major medical conference. In India, we're working closely with universities and research institutions to help them develop cell therapies that are specifically designed to treat Indian patients.

Our research mainly involves partnering with academic and private organisations that are interested in pushing the boundaries of CGT. We're providing training to researchers and scientists to help them understand and use our technologies effectively. We are focused on providing them with the tools and knowledge to advance their own research and develop new treatments. We are dedicated to supporting the development of innovative therapies that can improve the lives of patients in India and around the world.

How do you foresee the future of CGT in India?

The future of CGT in India looks very promising. This field is expanding rapidly worldwide, and India is catching up quickly. Experts predict the global market for CGT will surpass $100 billion within the next three to four years. In India, which is a relatively new player in this area, the market is expected to reach around $600 to $700 million during the same period. We're seeing a lot of interest from pharmaceutical companies and academic institutions in India, all of whom are starting to explore personalised medicine. Places like Genome Valley in Hyderabad are clear examples of this growing interest. The Indian government, both at the state and central levels, is also actively supporting this growth through new policies. The progress we've seen in the last five years has been remarkable, and we anticipate even greater advancements in the next five years.

The cost of CGT is a concern. How is Miltenyi Biotech working to reduce costs and make it more accessible?

It's important to consider the value that CGTs provide, rather than just focusing on the cost in isolation. These therapies are often used to treat patients with very difficult conditions, like relapsed or refractory cancers, and research is expanding to cover solid tumors and neurological disorders. Our primary goal is to save lives. To make these therapies more accessible, we are exploring partnerships to develop appropriate pricing models. While our costs in India are lower compared to places like the US, Japan, and Europe, it's important to understand that these therapies won't be as inexpensive as generic medications. We are working to find a balance between providing value and ensuring accessibility.

CGT, as a new treatment segment, has regulatory challenges. How do you view these?

The Indian government is being very proactive in creating regulations for CGT. Of course, there are challenges, as everyone is learning together, but we are seeing strong support from both state and central governments. We are confident that the regulatory framework will become more established and solidified soon.

Boris Stoffel, Global CEO of Miltenyi Biotech, spoke about the "democratisation" of CGT. What does that mean?

Democratisation, in this context means making CGT accessible to more people. Our presence in India is focused on ensuring that these therapies are available to those who need them. We are creating an outreach programme to reach patients where they are, and we are partnering with academic institutions and hospitals to provide access to every deserving patient, regardless of their ability to pay.

What distinguishes Miltenyi Biotech India from other players in the CGT sector? What unique value does it bring to the Indian market?

Miltenyi Biotech India's unique selling proposition (USP) is deeply rooted in the cultivation of local expertise and the fostering of a collaborative ecosystem within the Indian CGT landscape. We recognise a remarkable abundance of skill and an

insatiable thirst for knowledge across India's private, public, and academic institutions. This forms the bedrock of our strategy. Essentially, we are positioning ourselves as the premier partner in developing a highly skilled workforce within this specialised field.

Amguth Raju