

China's Jimi Biotech develops world's first deer antler stem cell line

22 August 2023 | News

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China's cellular agriculture company, Jimi Biotech, has developed the world's first deer antler stem cell line, making Jimi Biotech the first company globally capable of mass-producing deer antler stem cells through cellular cultivation. This spontaneously immortalised cell line has undergone over 60 passages with a doubling time of under 24 hours. Deer antlers hold significant cultural and dietary importance in China and other Asian countries, where they are revered as premium health products. The market for deer antlers in China alone exceeds 3 billion RMB. The uniqueness of deer antlers lies in their ability to undergo complete regeneration periodically under natural conditions, prompting extensive research into their anti-ageing and health benefits, especially pertaining to antler stem cells, which constitute less than 1 per cent of the entire antler structure.

Zhehou Cao, the founder of Jimi Biotech, explained the strategic thinking behind why Jimi has incorporated cultivated antler products into their offerings, "While we have significantly reduced the cost of cultivated meat, it's important to acknowledge that achieving price parity will likely take several years. In the interim, we aim to offer products that can substantiate their premium pricing. Given the high value and popularity of deer antlers, which are often sold at tens of thousands of yuan per kilogram or more, we already have a cost advantage. Additionally, the incorporation of deer antler stem cells can augment the value proposition of our meat offerings. We will begin by selling deer antler products, and as we continuously reduce costs, we will move on to selling cultivated beef, followed by other more affordable meats such as pork and chicken."

A good cell line is critical for the production of cultivated meat, and a non-GM approach is preferred given the regulatory circumstances in China. This is where Jimi Biotech's in-house developed JEVOS system comes into play – it is an AI-driven, high-throughput, and automated cell evolution platform. Zhehou Cao stated, "Obtaining a good cell line is

challenging, so we started building the JEVOS system at the end of last year. We have already obtained cell lines from multiple species, including deer, cattle, and chicken, which demonstrates the initial success of the JEVOS system. In the future, we will continuously obtain high-value and high-performing cells from various species through JEVOS.â

Jimi Biotech has successfully adapted its own cell lines to grow in suspension at more than 10 million cells per millileter, and the cost of serum-free media has been reduced to 50 RMB (less than \$7) per litre. Previously, Jimi Biotech developed Chinaâs first beef cell line and first cultivated beef, but it will prioritise submitting the approval filing for deer antler products next year.