

KHONA SCIENTIFIC to FOCUS FRONTIER BIOMANUFACTURING TECHNOLOGY on PRODUCTION of SMALL-MOLECULE KSMs and APIs

Next-generation BiDS™ synthetic biology platform to power on-demand, sovereign production of essential medicines and their precursors.



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2026 /EINPresswire.com/ -- Khona Scientific, a pioneer of advanced biomanufacturing solutions for complex natural product compounds, today revealed plans to deploy its modular biotechnology platform for production of key starting materials (KSMs) and active pharmaceutical ingredients (APIs) using elementary feedstocks. This trajectory aligns with the growing global need for robust, sovereign pharmaceutical supply chains that are viable alternatives to continued reliance on China and India. The Company will initially pursue two classes of KSMs and APIs – vinca alkaloids and steroid hormones – and plans to expand to six additional compound classes by 2031.

Khona Scientific's patented BiDS™ biosynthesis system is a versatile platform capable of producing complex, supply-constrained KSMs and APIs using abundant, inexpensive sugars as feedstocks. BiDS™ is akin to a 'molecular assembly line' – it (1) enhances yield, quality, throughput, and efficiency, (2) enables scalable, low-cost, regionalized production, and (3) excels where legacy biosynthesis systems struggle. This innovation decouples KSM and API production from vulnerable agricultural inputs, quasi-monopolistic supply chains, and volatile international trade policies.

"Khona Scientific is eager to leverage our technology to solidify KSM and API supply chains," said Paul Orlady, CEO of Khona Scientific. "There are ongoing and compounding shortages in the global supply of numerous essential medicines. In many cases, these shortages are underpinned by the limited availability of complex natural product KSMs and corresponding APIs. This in turn creates a ceiling in the volume of critical medicines that can be produced and a floor in the cost of production for those medicines. We at Khona Scientific believe that our novel biomanufacturing platform is uniquely capable of addressing key bottlenecks in natural product KSM and API supply chains. This translates to significant market opportunities, particularly in

localities like the US and EU where efforts to reshore KSM and API production are gaining momentum.”

Vinca alkaloids are critical medicines in both human and veterinary oncology and are long-standing members of the World Health Organization’s List of Essential Medicines. Despite their vital role in many anticancer treatment regimens, vinca alkaloids are chronically undersupplied. This compromises the availability of treatments for patients and forces physicians to ration care on a daily basis. The most detrimental impact of vinca alkaloid shortages is experienced by pediatric Acute Lymphoblastic Leukemia patients. For these children, the vinca alkaloid vincristine is an essential component of a treatment regimen that offers a nearly 90% cure rate when administered on schedule.

Steroid hormones are the foundation of the burgeoning hormone replacement therapy (HRT) market. HRT has a variety of use cases among women, including for the treatment of menopause symptoms and the prevention of osteoporosis. The regulatory environment for HRT is highly conducive to accelerated market entry. Moreover, there is a lack of reliable steroid hormone supply chains for HRT providers. Capitalizing on these factors, Khona Scientific will operate as a business-to-business supplier of steroid hormones to the growing cohort of compounding pharmacies that formulate HRT to meet patient needs.

By pursuing vinca alkaloids and steroid hormones concurrently, Khona Scientific positions its technology at the confluence of market opportunity, public health importance, and regulatory favorability.

About Khona Scientific

Khona Scientific is a synthetic biology trailblazer developing biomanufacturing platforms for the cost-advantaged production of complex natural product compounds. The Company’s BiDS™ platform unlocks the full potential of KSM and API biomanufacturing by orchestrating complex biosynthetic pathways to function as high-throughput molecular assembly lines. Khona Scientific is currently deploying its technology for production of KSMs and generic APIs for which sovereignty, quality, and supply chain security are critical.

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