

Croda and Botanical Solution Inc. (BSI) partner to fast-track sustainable vaccine adjuvant QS-21 production

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PHARMACEUTICAL NEWS

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Davis, California – Croda Pharma and BSI announced that they have entered into a strategic collaboration agreement to support the sustainable sourcing of pharmaceutical grade adjuvant QS-21, a potent component of adjuvant systems.



Croda and Botanical Solution Inc. (BSI) join forces in a collaborative endeavor to expedite the manufacturing of QS-21, a sustainable vaccine adjuvant.

QS-21 is used in several innovative vaccines against diseases such as shingles, malaria and RSV, plus promising new vaccine and immunotherapy treatments such as cancer. This partnership sees the two organisations share expertise to bring to market QS-21 from *Quillaja saponaria* plant cell culture, delivering the most sustainable source of the adjuvant from plantlets in contrast with conventional methods that harvest mature trees to extract material from the bark. Furthermore, the partnership allows Croda to tackle further the industry challenge of limited supply sources for this critical component, helping customers to secure their supply chain for QS-21 better.

This new partnership is aligned with Croda's commitment to be the most sustainable supplier of innovative ingredients across its growth markets, and Daniele Piergentili, President Life Sciences at Croda, explains his excitement about the partnership.

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It provides opportunity to build a scalable, and truly sustainable supply chain of QS-21 to the pharmaceutical industry. The plentiful supply of QS-21 enables the production of next generation adjuvant systems for new vaccine development.

DANIELE PIERGENTILI, PRESIDENT LIFE SCIENCES AT CRODA

According to Gaston Salinas, CEO at BSI, “BSI and Croda Pharma are natural partners with a shared vision on removing the barriers that have prevented mass adoption of QS-21 for developing highly efficacious modern vaccines. Through this very exciting partnership we aim to supply kilogram-quantities of sustainable GMP QS-21.”

The announcement is in line with Croda's strategy to “Empower biologics delivery” and follow news on previous investments to continue expanding Croda Pharma's manufacturing capabilities in both US and UK, in order to enable the next generation vaccines and therapeutic drugs with their high purity excipients, lipids and adjuvant systems.

Peter Tygesen, Managing Director Adjuvant Systems, also commented: “BSI's unique and innovative processes for growing *Quillaja saponaria* biomass in their labs and then extracting the QS-21 from these young plants is a game changing approach. We look forward to partnering with BSI and creating a robust, scalable, and sustainable supply chain for QS-21, enabling our customers to work with this gold standard vaccine adjuvant.”

Croda Pharma

Croda's Pharma business is a leading partner for the development of excipients and the supply of high purity materials for pharmaceutical formulations, committed to enabling the next generation of drug delivery systems. The business is focused on empowering biologics drug delivery, through its adjuvant systems, small molecule, protein, and nucleic acid delivery platforms. With a wide range of solutions for both human and animal health markets, our pharmaceutical portfolio is unsurpassed in its excellence for drug and vaccine delivery.

Croda's products, along with its in-house formulation and regulatory expertise, allow the business to meet its customers most demanding formulation needs. To learn more visit www.crodapharma.com

Botanical Solution Inc. (BSI)

BSI, a Delaware Corporation, has a proprietary R&D platform for truly sustainable and improved production of consistent and high-quality Advanced Botanical Materials (ABM). ABM-01 is the first ABM produced by the company, based on a tissue cultured plant called *Quillaja saponaria*. ABM-01 is the active ingredient used in two gold standard products, BSI's biopesticide Quilibrium® and the adjuvant QS-21, used in modern vaccine development. To learn more visit www.botanical-solution.com