

New Study Comparing Plant-Derived and Synthetic CBD Efficacy Opens Door to Exciting Medical Uses of Cannabidiol

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Cannabidiol (CBD), a derivative of cannabis, has been the focus of research for decades, as pharmaceutical companies look to harness the long list of uses as a treatment for pain, sleep disorders, mood disorders, and even cancer. However, poor bioavailability of the cannabis derivative has hampered much of this research as it's difficult to identify and administer precise dosing when the amount that actually gets absorbed varies so widely from product to product.

Artelo Biosciences, Inc. (NASDAQ ARTL) -- a clinical-stage pharmaceutical company focused on treatments targeting the endocannabinoid system — has been working hard to tackle that roadblock. In August, the company saw a breakthrough with the publication of a study it sponsored comparing its synthetic CBD to naturally derived CBD.

Study Finds No Pharmacological Difference Between Natural and Synthetic CBD

The [study published in Medical Cannabis and Cannabinoids](#) looked at the in-vitro effects of synthetic CBD and purified natural CBD to test whether there are any differences between the two forms.

Using purified samples, researchers were able to see how the natural and synthetic CBDs each affected human cells. The tests showed that both natural and synthetic CBD had the same ability to repair cell damage, block cancer cell growth, and reduce inflammation.

These results are an important breakthrough in the research on the medical benefits of CBD because it's much easier to develop consistent and pure CBD-based therapeutics when producing it synthetically. Natural extracts can come with varying amounts of other compounds — including THC, the psychoactive ingredient in cannabis that some patients would rather avoid.

The greater control over purity that synthetic CBD offers makes it a strong candidate for use in CBD-based treatments, including Artelo's lead drug candidate for treating cancer and other diseases.

The Study's Implications for Artelo's Patented CBD Cocrystal

With the findings that synthetic CBD appears to be just as potent as natural CBD, Artelo is one step closer to launching the first CBD cocrystal on the market. [ART12.11](#) is a cocrystal of CBD and tetramethylpyrazine (TMP).

“Cocrystallization” is the process of combining two or more molecules into a single crystal lattice for the purpose of creating a more stable, consistent version of the active molecule to use in pharmaceuticals.

The CBD and TMP cocrystal from Artelo would combine the pure, THC-free synthetic CBD with the extensively researched TMP, which has already been approved by the European Food Safety Authority for use as a food additive.

Artelo expects this unique cocrystal to create an improved version of CBD that offers the potent benefits of the cannabis derivative in a pure, consistent and more bioavailable form. While still in the early stages of clinical research, Artelo hopes to develop ART12.11 for a wide range of conditions including inflammatory bowel diseases, stroke, post-traumatic stress disorder, cancer, as well as some rare diseases.