

Revive's Push Into Cannabis Research Starting To Bear Fruit

The real therapeutic effects of medical marijuana have been known for decades, and decriminalization has opened a flood-gate of new research dollars flowing into the area of cannabinoid-based medicines. Medical breakthroughs are not far behind.

One company helping to spearhead the development of cannabinoid drugs for unmet medical needs is Revive Therapeutics (TSXV: RVV) (OTC: RVVTF). In June 2017, Revive announced that it had obtained [positive results](#) from its research program of cannabinoid-based therapies targeting liver diseases, demonstrating certain cannabinoids were effective in reducing liver fibrosis in models of disease, setting the stage for the company to continue further development of select cannabinoid drug candidates as novel treatments for liver fibrogenesis.

The encouraging data generated by Revive follows a trend of recent advancements by biopharma companies targeting cannabinoid drug development focusing on rare or unmet medical needs. The more scientists learn about the important therapeutic characteristics of cannabinoids found in the *Cannabis* plant, the more medical breakthroughs are being discovered. Revive's initial efforts are in [targeting liver diseases](#), such as fibrosis and non-alcoholic fatty liver disease (NAFLD), a precursor to non-alcoholic steatohepatitis (NASH). Currently, there are no U.S. FDA-approved medications to treat NASH, a market that Deutsche Bank estimates will eclipse \$35 billion in revenues by 2030.

The answer may be found in the *Cannabis* plant. Revive's recent success involved screening eight such potentially therapeutic phytocannabinoids on in-house models of liver fibrosis. The research identified several promising drug candidates and their potential therapeutic role in reversing liver fibrosis.

Because this is such a new area of discovery, management is taking a collaborative approach. The recent data was generated [in collaboration](#) with PhytoSciences Consulting LLC, a contract research organization and led by Dr. Pritesh Kumar, PhD. Dr. Kumar is a [Scientific Advisor](#) to Revive and has significant experience in investigating cannabinoid-based therapeutics. The company also recently added Dr. Scott Friedman, MD, as a second [Scientific Advisor](#) in the area of cannabinoid-based therapeutics targeting liver disease. Dr. Friedman is the Dean for Therapeutic Discovery and Chief of the Division of Liver Diseases, at the Icahn School of Medicine at Mount Sinai.

The opportunity in liver disease is tremendous. The liver disease market is expected to reach \$19.5 billion by 2022 (company data), which includes potential indications such as fibrosis, fatty liver disease, and NASH. This has been a hot area for large-cap pharma over the past year, with companies such as Bristol-Myers, Gilead, and Allergan each making billion-dollar acquisitions. In fact, many other companies are targeting the huge liver disease market, but Revive is one of the only ones pioneering the effort with cannabinoids.

And it is important to differentiate the real scientific analysis and drug development that Revive is conducting from simple medical marijuana. Standardizing delivery to the liver and mitigating the psychotropic side effects of THC are two important differentiators of cannabinoid-based therapeutics. It is for this reason that a [recent opinion piece](#) published in the *Canadian Medical Association Journal* (CMAJ) called for a separate medical cannabis stream to keep patients safe.

Revive is also investigating the potential topical delivery of cannabinoid-based therapeutics for the treatment of inflammatory skin disorders and complications. The company signed a sponsored [research agreement](#) with the University of Wisconsin-Madison Alumni Research Foundation (WARF) in May 2017 to further explore this area. WARF has developed a novel tannin-chitosan composites drug delivery technology with a focus on cannabinoids for the potential to treat various diseases. The initial efforts will focus on topical applications of cannabinoids to treat neuropathic pain, chronic wounds, and other inflammatory skin diseases.

Conclusion

Medical breakthroughs are sometimes discovered by serendipitous happenstance. In 1928, Alexander Fleming discovered penicillin by accidentally leaving a petri dish open on his lab bench. Other times, eloquent scientific theory and diligent investigation lead to the discovery of game-changing drugs. Merck's cancer drug Keytruda® comes to mind. And sometimes, it's simply evidence of anecdotal therapeutic effect. This is why the U.S. passed the 21st Century Cures Act in 2016, to expedite the approval of new medicines based on real world evidence. The evidence of therapeutic effect for medical marijuana is real; and, married with eloquent science and diligent investigation, new breakthroughs are near.

Revive is at the center of this investigation and presents investors with an interesting opportunity given the low market value. The company has experience in advancing drugs into FDA accepted clinical trials with two drug programs at the Phase 2 clinical stage. Expanding into cannabinoid-based therapeutics presents investors with tremendous upside to the story and the company's focus on finding and executing collaborative research agreements clearly lowers the risk and high-dollar cost of exploring new medical breakthroughs. Management has astutely positioned the company to have multiple shots on goal, making Revive a name to watch in this booming area of pharmaceutical research.
