

RespireRx Pharmaceuticals

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RespireRx Pharmaceuticals files provisional patent application for lipid-based formulation technology to develop cannabinoids

RespireRx Pharmaceuticals (OTCQB:RSPI) Inc said it has filed a provisional patent application for a novel lipid-based formulation technology (LFT) that may be used to improve the solubility and bioavailability of poorly soluble drugs, particularly cannabinoids.

Low aqueous solubility is a major problem encountered during the formulation of drug molecules, with an estimated 70% of current drug research pipelines containing such molecules.

Because of its recent use in the formulation of mRNA vaccines for COVID-19, LFT has become a focus in formulation research efforts, the company said in a statement.

READ: RespireRx Pharmaceuticals notes publication of paper on newest GABAkinase analog which protects against seizures and lethality

ResolutionRx, the company's business unit focused on pharmaceutical cannabinoids, has been developing dronabinol (a synthetic form of tetrahydrocannabinol, or THC) that acts upon the nervous system's endogenous cannabinoid receptors.

Dronabinol was approved in 1985 by the US Food and Drug Administration as Marinol for the treatment of AIDS-related anorexia and later for the treatment of chemotherapy-induced nausea and vomiting.

"Using the commercial form of dronabinol, we have successfully completed two Phase 2 clinical trials demonstrating significant reductions in the major symptoms of obstructive sleep apnea (OSA)," the company said.

"However, based on these results and those from pharmacokinetic studies, we have concluded that expansion of dronabinol's use into OSA and other therapeutic indications will require new, improved formulations."

As it is commercially sold, RespireRx said dronabinol is formulated as a sesame oil emulsion in a soft gelatin capsule that suffers from poor and highly variable absorption, low blood levels resulting from rapid and extensive (approximately 80%) first-pass liver metabolism, as well as a relatively brief half-life (approximately 2-3 hours) requiring high doses in order to achieve sustained, therapeutic blood levels for four hours or longer.

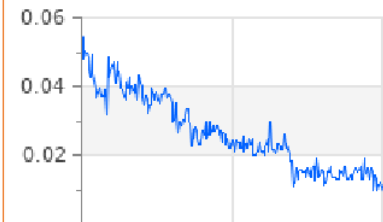
In order to circumvent these problems, the company said it has designated certain important properties to create a number of lipid nanoparticle (LNP) formulations of dronabinol, three of which display appropriate water solubility and dissolution to improve absorption and resistance to stomach acid conditions to reduce first-pass liver metabolism and achieve higher and longer blood levels.

Pending additional financing, the company said it plans to test these formulations in animal and human pharmacokinetic (PK) and pharmacodynamic (PD) studies.

Price: 0.011

Market Cap: \$1.04 m

1 Year Share Price Graph



March 2021 September 2021 March 2022

Share Information

Code: RSPI

Listing: OTCQB

52 week High Low
 0.0589 0.006

Sector: Pharma & Biotech

Website: respirerx.com

Company Synopsis:

RespireRx Pharmaceuticals Inc is a biopharmaceutical company developing innovative and revolutionary treatments to combat disorders caused by disruption of neuronal signaling.

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"We are very enthusiastic about our new LFT and its potential use in the development of formulations for a broad range of drugs, particularly our new dronabinol formulations," said Dr Arnold Lipka, interim CEO of RespireRx.

"We believe that they may broaden the dronabinol market to include not only OSA but other indications, as well. For example, we believe that while dronabinol is approved for AIDS-related anorexia, its potential use in a broader form of the condition such as anorexia nervosa or avoidant restrictive food intake disorder (ARFID) would benefit from our improved formulations. Since dronabinol already has been approved for AIDS-related anorexia, we believe that a treatment specific formulation of dronabinol could be brought to market rapidly."

He added: "The pharmaceutical use of cannabinoids is beginning to realize commercial expansion and we believe that our new technology can have a significant impact."

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