



ASX Announcement

7 June 2023

Avecho completes development of TPM[®] enhanced cannabinoid gummies

Highlights:

- Avecho has completed the development of its first edible dosage forms combining TPM[®] with cannabinoids.
- TPM[®] cannabinoid gummies out-perform standard products with faster onset and greater effect.
- TPM[®] cannabinoid gummies are applicable to both medicinal and consumer cannabis markets.
- Avecho's portfolio of differentiated cannabinoid dosage forms now include oral oils, capsules, edibles, and topical gels.

Melbourne, Australia, 7 June 2023: [Avecho Biotechnology Limited](#) (ASX:AVE, "Avecho", or "the Company") today announced it has completed the development of first generation TPM[®] gummies containing cannabinoids. TPM cannabinoid gummies out-perform standard products with faster onset and greater magnitude of effect.

Gummies are chewable, jelly-like preparations made from a mixture of glycerin and gelatin, able to incorporate a range of medications or nutraceutical ingredients. They have become increasingly popular dosage forms for use with cannabinoids, as they provide an alternative method of consumption to smoking and vaping without the associated respiratory issues.

The medicinal applications for cannabidiol ("CBD") gummies are growing rapidly and include neurological and psychiatric disorders which are a key driver of the CBD gummy market's evolution in North America. Gummies incorporating tetrahydrocannabinol ("THC") are becoming increasingly dispensed for the management of pain. Both CBD and THC gummies have become major product categories in the North American consumer and recreational cannabis markets.

Cannabinoid absorption from standard edible dosage forms is far from ideal, being variable with time to onset often reported as between 30-120 minutes. During that time, patients/consumers often ingest further gummies, mistakenly believing that the first has not worked. Consumption of multiple gummies can lead to a range of adverse effects once the accumulated amounts of THC are absorbed.

Recognising the ability of TPM to improve absorption of cannabinoids, Avecho sought to optimize the composition and performance of cannabinoid gummies using TPM to increase the rate of onset and provide a more reproducible effect. Formulation development was conducted in collaboration with a US firm specializing in the manufacture of such formulations. Specific combinations of TPM and other ingredients were identified that promoted onset of effect after ten minutes, with the perceived effect of the gummies also stronger than standard gummies containing THC.



Avecho CEO, Dr Paul Gavin, said: *"The rapid onset was particularly exciting for us, as it demonstrated the ability of TPM[®] to enhance buccal drug absorption, which is drug absorption directly through the inside of the cheeks into the bloodstream. This route of administration avoids first pass metabolism, where drug is destroyed or converted during digestion. We have always suspected TPM had the appropriate chemistry to promote buccal absorption but have not previously worked with a dosage form appropriate for this route of administration. A cannabinoid gummy with rapid onset would be uniquely positioned for a range of therapeutic indications, including pain, anxiety, and sleep. The Company is now in a strong position to enter discussions with local medicinal cannabis companies for the use of the gummy in the Australian medicinal market."*

While the Company's focus will remain on the development of pharmaceutical cannabinoid products, these gummies would have obvious advantages in the North American consumer and recreational markets. Cannabis edibles have continued to grow in popularity amongst consumers in both the US and Canada, making up about 13% of the legal cannabis market with sales of about \$3.4 Bn USD¹. Gummies dominate the edibles scene in both markets, making up 69.4% of all edible sales in Canada and 73.9% of sales in the US¹. It is estimated that gummies will continue to rise in popularity as more younger shoppers become of legal age and the market matures.

Avecho CEO, Dr Paul Gavin, said: *"While the pharmaceutical market is our priority, the value of recreational gummies with better absorption for the North American market cannot be underestimated or ignored. While we won't step into this space ourselves, we are already in discussions with third parties in North America interested to test samples of these products."*

With the inclusion of edibles, Avecho's current cannabinoid portfolio now contains four different dosage forms; oral oils, oral soft-gel capsules, oral edibles, and topical gels. All products show increased absorption produced by the inclusion of TPM, which is a key differentiating feature across all dosage forms. Many of these products are already the subject of ongoing licensing discussions.

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This announcement is authorised for release by the Board of Directors of Avecho Biotechnology Limited.

Questions related to the announcement are welcome via our [InvestorHub platform](#).

Investor + General Enquiries

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¹ 28 October 2022, *Cannabis Edibles: An analysis of category trends & performance*, Team Headset
<https://www.headset.io/industry-reports/cannabis-edibles-an-analysis-of-category-trends-performance>



About Avecho

Avecho Biotechnology Limited develops and commercialises innovative Human and Animal Health products using its proprietary drug delivery system called Tocopheryl Phosphate Mixture (**TPM**[®]). TPM[®] is derived from Vitamin E using unique, proprietary and patented processes and is proven to enhance the solubility and oral, dermal and transdermal absorption of drugs and nutrients.

Avecho's major projects include delivering TPM[®] enhanced injectable, oral and topical products for the human health market and is also developing TPM[®] to enhance the feed efficiency and health of livestock.

Forward-Looking Statements

Certain statements in this announcement are forward looking statements. Forward-looking statements can generally be identified by the use of words such as "anticipate", "estimate", "expect", "project", "intend", "plan", "believe", "target", "may", "assume" and words of similar import. These forward-looking statements speak only as at the date of this announcement. These statements are based on current expectations and beliefs and, by their nature, are subject to a number of known and unknown risks and uncertainties that could cause the actual results, performances and achievements to differ materially from any expected future results, performance or achievements expressed or implied by such forward looking statements.

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