Zentek and McMaster University Announce New Aptamer Technology Platform

written by Raj Shah | July 27, 2023

July 27, 2023 (Source) – **Zentek Ltd.** ("**Zentek**" or the "**Company**") (NASDAQ:ZTEK)(TSXV:ZEN), a technology development and commercialization company and McMaster University (McMaster) are proud to announce that Dr. Yingfu Li and his team at the Li Lab have developed a novel aptamer technology that increases the binding affinity of aptamers by up to 250 times. The increased binding affinity enhances the limits of detection for aptamer-based diagnostics. In addition, the enhanced binding affinity may lead to the successful adaptation of these same aptamers for new therapeutic and prophylactic treatments. Binding affinity is a key metric in both diagnostic and therapeutic applications.

This technology platform was first successfully tested *in vitro* and *in vivo* against the SARS-CoV-2 virus as reported in the July 20th, 2023, news release. The technology was further tested against previously published aptamers with known binding affinity for human biomarkers including Vascular Endothelial Growth Factor and Troponin, as well as the influenza virus. These published aptamers were synthesized both in their original state and using the McMaster technology. Afterwards, their binding affinity was measured using both a dot blot assay and biolayer interferometry (BLI). In each case, the aptamers synthesized with the technology demonstrated a significant increase in binding affinity, from 30 to 250 times compared to the original aptamers.

These results demonstrate the potential broad use of this

aptamer technology platform to enhance most existing and future aptamers.

Dr. Yingfu Li stated: “The novel aptamer technology platform developed in my lab at McMaster University is demonstrating a robust increase in binding affinity to every aptamer we have tried so far. Combining this technology with aptamers that have high specificity has created a very exciting potential for new therapeutics and diagnostics. The enhanced binding affinity from these new aptamers has led to consistent and successful *in vitro* testing in my lab and the lab of Dr. Leyla Soleymani for diagnostic applications, and more recently, with *in vivo* testing in the lab of Dr. Matthew Miller for therapeutic applications. These early results are very exciting, and we look forward to future work that applies the technology to other potential therapeutic and diagnostic targets.”

Intellectual Property Status

Provisional patents have been filed with the United States Patent and Trademark Office. The patent applications are owned by McMaster University and under license to Zentek through a 20 year, global and exclusive license agreement that covers diagnostic, neutralization and therapeutic use of aptamers and DNAzymes developed by the Li Lab.

Greg Fenton, CEO of Zentek commented: “Initially, we were working to develop aptamers for diagnostic purposes. Through this sponsored research, the Li Lab has successfully created a new aptamer technology platform that has demonstrated the ability to significantly increase the binding affinity of aptamers, in general. Dr Li’s initial breakthrough was important for diagnostic purposes, and now early testing points to the potential to create new therapeutics and prophylactics. I can’t emphasize enough how unexpected these results were to our team

and how significant this development is if it is confirmed through future testing.”

The Company is not making any express or implied claims that its product has the ability to eliminate, cure or contain the Covid-19 (or SARS-2 Coronavirus) at this time.

About Zentek Ltd.

Zentek is an ISO 13485:2016 certified graphene technology company focused on the research, development and commercialization of graphene-based novel products seeking to give the company’s commercial partners a competitive advantage by making their products better, safer, and greener.

Zentek’s patented technology platform ZenGUARD™, is shown to have 99-per-cent anti-microbial activity and to significantly increase the bacterial and viral filtration efficiency of both surgical masks and HVAC (heating, ventilation, and air conditioning) systems. Zentek’s ZenGUARD™ production facility is located in Guelph, Ontario. Zentek’s patent pending ZenARMOR™ technology platform is focused on corrosion protection applications.

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To find out more about Zentek, please visit our website at www.Zentek.com. A copy of this news release and all material documents in respect of the Company may be obtained on Zentek’s SEDAR profile at http://www.sedar.com/.

Forward-Looking Statements

This news release contains forward-looking statements. Since forward-looking statements address future events and conditions, by their very nature they involve inherent risks and uncertainties. Although Zentek believes that the assumptions and factors used in preparing the forward-looking information in this news release are reasonable, undue reliance should not be placed on such information, which only applies as of the date of this news release, and no assurance can be given that such events will occur in the disclosed time frames or at all. Zentek disclaims any intention or obligation to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, other than as required by law.

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SOURCE: Zentek Ltd.