



ASX and MEDIA RELEASE

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Graphene Quantum Dots proven effective in the treatment of brain injuries, strokes and heart-attacks

- A new study led by Dotz's scientific advisor Prof. James Tour of Rice University in Houston Texas, has found that Graphene Quantum Dots (GQD) manufactured from coal, can fight oxidative-stress to assist in the treatment of conditions such as brain injuries, strokes, and heart attacks
- Dotz holds the exclusive license for manufacturing of GQD from coal and has reached commercial production capacity
- Dotz to engage with medical entities to commercialize the technology
- This follows Dotz's continuous efforts to find new applications for its advanced-materials solutions within prime-markets
- One such market is the Medical domain, where Dotz offers the use of Validotz™ to protect plastic medical devices from counterfeiting

Dotz Nano Limited (ASX:DTZ) ("Dotz" or "The Company") an advanced technology company developing, manufacturing and commercialising tagging, tracing and verification solutions, is engaging with the medical industry and academic leaders to progress the possible use of its products in biomedical applications.

This strategic focus entails Dotz's anti-counterfeiting solutions for plastic medical devices and new applications derived from this breakthrough research¹ conducted by five university and research facilities including Rice University. It was demonstrated that GQDs can assist in fighting oxidative stress to assist in treating patients suffering from a range of serious conditions including brain injuries, strokes, MS and heart attacks. Dotz's scientific advisor Professor James Tour led the study, which is now widely covered by medical publications².

Dotz holds the exclusive license for manufacturing of GQDs from coal, and the company has reached commercial production capacity, which now allows engagement with the medical industry to explore possible commercialisation.

Dr. Yoni Engel, Dotz's director of product development, said: "Carbon-based nanomaterials are known to be excellent scavengers of reactive oxygen species, or 'free radicals', which are often a contributing factor for stroke, cardiovascular disease and cancer.

"However, issues such as cytotoxicity and the ability to manufacture carbon-based nanomaterials in an efficient and reproducible manner have previously prevented their successful use in the market. The research by Rice University and its research partners demonstrates that coal-based low toxicity GQDs can be successfully used to uncover diseases and fight oxidative stress in living mice. These

¹ <https://pubs.acs.org/doi/10.1021/acsami.9b01082#>

² <https://www.medicalnewstoday.com/articles/325104.php>



latest results, combined with Dotz's commercial production capacities, provides great opportunities for GQDs in various medical applications that can be explored in later research and possibly treatments."

Dotz CEO Uzi Breier, said: "Dotz is actively seeking commercial partnership opportunities within the medical market for both our biomedical and anti-counterfeiting technologies. This new study highlights the promising effect of GQDs in treating a range of serious medical conditions and Dotz has the manufacturing capability to cost-effectively cater to future commercial requirements."

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Further information:

Investor Enquiries:

Ian Pamensky

Company Secretary

E: ian@cfo2grow.com.au

P: +61 414 864 746

Media Enquiries:

Tristan Everett

Market Eye

E: tristan.everett@marketeye.com.au

P: +61 403 789 096

About Dotz Nano Limited

Dotz Nano Limited (ASX: DTZ) is a technology leader in research, production and marketing of anti-counterfeiting, authentication and tracing solutions. Dotz has strong, established distributors in North America, Europe, Japan and Australia as well as scientific collaborations and partnerships with leading academic institutes.

Its unique products ValiDotz, BioDotz, Fluorensic and InSpec are exceptional solutions for numerous applications, such as: anti-counterfeiting, brand & reputation protection, oil & gas industry, liquids tagging, lubricants and DEF authentication, polymers tagging and bio-imaging.

To learn more about Dotz, please visit the website and corporate video via the following link www.dotz.tech