ASX RELEASE

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POSITIVE RESULTS FROM DRUG DELIVERY STUDIES & NEW PEPTIDE-POLYMER PATENTS

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Highlights

- Further research validation of the Tetramatrix™ platform polymer confirming it forms a **protective, adhesive carrier** on the nasal lining shielding fragile compounds from degradation and enables direct absorption into the bloodstream – **no needle required**.
- The studies were led by researchers at the Woolcock Institute of Medical Research, a key Tetratherix research collaborator. Key results include greater than 99% compound encapsulation, protection from enzymatic degradation, and statistically superior delivery to the bloodstream.
- These publications add to the **growing independent evidence validating Tetramatrix™ as a carrier** platform for a broad range of therapeutic compounds, including proteins, peptides, hormones, antibiotics and growth factors. Each addition to the dataset broadens the commercial and licensing possibilities for the Precision Medicine franchise.
- The publications coincide with additional **patents being granted in multiple jurisdictions for our peptide-polymer patent family**, illustrating Tetratherix's ability to obtain enforceable patent protection over specific peptide-polymer combinations, establishing a defensible IP foundation.
- Tetratherix continues its collaboration with the Woolcock Institute of Medical Research at Macquarie University, with co-funding from the university, to further support the world-class innovation ecosystem in drug delivery and the next generation of entrepreneurial researchers.

Tetratherix Limited (ASX:TTX) (**Tetratherix**) is pleased to draw investors' attention to two separate independently conducted, peer-reviewed studies and the continuing research partnership with the Woolcock Institute of Medical Research at Macquarie University.

Ali Fathi, CTO of Tetratherix, commented:
"I am incredibly excited to highlight the publication of our research in highly credible peer-reviewed journals in collaboration with independent research partners like the Woolcock Institute of Medical Research and Macquarie University. Each independently published dataset like this strengthens the scientific case that we have not built a single-use product. We have built a platform that will power the next generation of medicine."

Two peer-reviewed studies[1] have now been published using the Tetramatrix™ platform polymer as a nasal carrier for peptide and protein compounds. The first tested the polymer against bovine serum albumin, the scientific standard used to evaluate drug delivery systems for large biological molecules including peptides and hormones, and demonstrated high encapsulation efficiency, confirmed stability over four weeks when refrigerated, zero cytotoxicity, significantly greater deposition in the olfactory region of the nasal cavity, and a statistically significant increase in the tightening of nasal cell junctions, a mechanism that prolongs how long the compound stays in contact with the absorption surface before being cleared. The second applied the same polymer to insulin, a peptide hormone with known stability and delivery challenges. We confirmed greater than 99% encapsulation, stability, enzymatic degradation protection, and statistically superior compound delivery to the bloodstream and brain compared to unformulated insulin.

The two studies tested the polymer with different compounds, across different delivery objectives, and reach the same conclusion: the Tetramatrix™ platform protects active compounds during delivery, holds the active compounds at the absorption surface, and enables more efficient delivery of the active compounds.

The publications coincide with patents being granted in multiple jurisdictions for the Tetramatrix™ platform peptide-polymer patent family, illustrating Tetratherix's ability to obtain enforceable patent protection over specific peptide combinations. This means Tetratherix can obtain enforceable patent protection not just for the Tetramatrix™ platform polymer itself, but for peptide use cases with our platform for different therapeutic outcomes.

1. Exploring intranasal delivery of peptide and protein nanoparticles by a thermoresponsive hydrogel (Journal of Drug Delivery Science and Technology) and Repurposing insulin for Alzheimer's disease treatment: intranasal delivery of a thermoresponsive nanocarrier-based insulin formulation to the brain (Drug Delivery and Translational Research).

Will Knox, CEO of Tetratherix, commented:
"Each peer-reviewed publication using our polymer adds to the dataset that underpins the value of our platform and, specifically for the Precision Medicine franchise. The more compounds we demonstrate that Tetramatrix™ can carry, the wider the licensing and commercial opportunity becomes. The proven patentability also exemplifies that we can protect what we build. As we develop new polymer-compound combinations, we are building both a scientific dataset and patent coverage that compound in value together."

CONTEXT

Why is getting peptides into the body such a difficult problem?
Peptides, which include compounds such as GLP-1s, growth hormones, insulin and many other therapeutics, are some of the most promising medicines available today, but they come with a fundamental delivery problem. Swallowed as a pill, they are mostly destroyed by stomach acid before they ever reach the bloodstream. Injected under the skin, they work well, but injections are a barrier for many patients due to needle phobia, needle fatigue or the practicality of managing regular injections long-term.

The nasal route has long been recognised as the ideal alternative: the nasal lining is thin, rich with blood vessels, and connects directly to the bloodstream without going through the digestive system. The challenge is making that delivery work reliably. The inside of the nose is a hostile environment where natural enzymes are designed to break down foreign substances on contact, and liquids wash out quickly before they can be absorbed.

How does the Tetramatrix™ platform polymer solve this problem?
The Tetramatrix™ platform polymer is thermoresponsive, meaning it behaves as a liquid at room temperature and transforms into a sticky, gel-like cushion at body temperature. When sprayed into the nose it forms a soft, adhesive layer on the nasal lining that anchors the compound in place long enough for it to be absorbed directly into the blood. Critically, the polymer's 'biostealth' design means it does this without triggering inflammation, the body does not recognise it as a threat, so the compound it carries is not broken down before it works.
These properties have been confirmed in the studies in independent, rigorous laboratory and animal model settings, reporting greater than 99% compound encapsulation, protection from enzymatic breakdown, and statistically superior compound delivery into the bloodstream compared to the unformulated compound alone ($p < 0.0001$).

What does a growing independent dataset mean for Tetratherix?
Tetratherix has previously disclosed that its internal research has tested STEPP as a carrier for mRNA, antibiotics, antibodies, proteins, peptides and growth factors. Each compound class that is validated, whether through Tetratherix's own programs or through independent external research, expands the scientific basis for the platform and opens new potential licensing or commercial partnership opportunities.

The second study extends the validated compound list to include insulin. Because the Tetramatrix™ platform polymer is the same material regardless of the compound it carries, evidence generated in one application directly supports confidence in all others. This is the compounding value of a platform business: the dataset grows with every study, and so does the scope of what can be offered to commercial and licensing partners.

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This announcement was authorised for ASX release by the CTO.

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