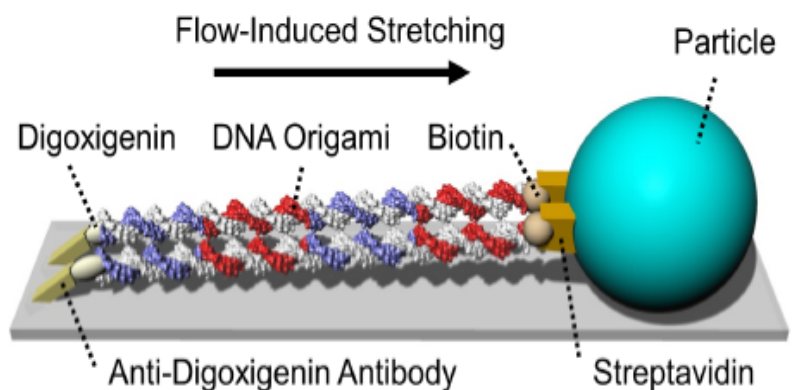


FOLDING THE FUTURE: PRECISION DNA ORIGAMI FOR NEXT-GEN NANOTECH SOLUTIONS

Researchers at Mason have developed a cutting-edge DNA origami technology that enables the precise construction of nanoscale architectures by folding DNA strands into customizable 2D and 3D shapes. This breakthrough has far-reaching applications in fields like drug delivery, nanomanufacturing, and biomolecular imaging. By designing DNA structures with adjustable stiffness through controlled densities of nicks and Holliday junctions, Mason's researchers have pioneered new possibilities for constructing durable and flexible nanoscale systems.

Key Features

- **Precision at the Nanoscale:** Capable of designing 2D and 3D structures with nanometer-level accuracy, allowing for the precise positioning of molecules
- **Adjustable Mechanical Properties:** Control of stiffness of DNA structures by adjusting the number of nicks and Holliday junctions, enabling tailored performance under different mechanical forces
- **Application Versatility:** DNA origami is ideal for drug delivery systems, scaffolding for nanomanufacturing, and high-resolution imaging techniques
- **Scalable and Efficient Assembly:** High-yield synthesis of DNA nanostructures with minimal complexity, making large-scale deployment viable
- **Proven Mechanical Performance:** Tested under various force regimes, these DNA structures can withstand significant axial loads, enhancing durability and flexibility for advanced applications



Flow-induced stretching of DNA origami and particle tracing set-up.

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