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NUS researchers develop chip for faster diagnosis

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A team of researchers at the National University of Singapore (NUS) has developed a tiny microfluidic chip that could effectively detect minute amounts of biomolecules without the need for complex lab equipment.

The tiny biochip can sensitively detect proteins and nano-sized polymer vesicles with a concentration as low as 10ng/mL (150 pM) and 3.75?g/mL respectively. It also has a very small footprint, weighing only 500 mg and is 6mm³ in size. Detection can be performed using standard laboratory microscopes, making this approach highly attractive for use in point-of-care diagnostics.

To complement this chip technology, the team is also developing a portable smartphone-based accessory and microfluidic pump to make the whole detection platform portable for outside laboratory disease diagnostics. The researchers hope to further develop this technology for commercialization.