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Scientists at Nanyang Technological University, Singapore (NTU Singapore) have developed probiotics with a unique edible coating that ensures the beneficial bacteria successfully reach the intestine once they are ingested.

The probiotics, gut-friendly *Lactaseibacillus* bacteria, are spray coated with alginate, a carbohydrate derived from brown algae, protecting them from the harsh acidic conditions in the stomach.

Through experiments simulating a journey along the human digestive tract, only the probiotics with the NTU-developed coating survived. The bacteria are released only when they reach the small intestine, as the coating breaks down by reacting with phosphate ions, which are present in higher amounts in the small intestine.

A patent application for the probiotics coating technology has also been filed through NTU's enterprise and innovation company, NTUitive.

The NTU probiotics coating technology is customisable and can be used to create powder-like coated probiotics, which are about 10 μm (0.0004 inch) in diameter.

The NTU-developed technology has received interest from companies in the F&B industry to adopt and further develop it. The scientists will be working on testing their innovation on other types of probiotics, which would enable it to be applied to the agrifoodtech industry, as it could be used to enrich the diets of reared animals, such as fish and chicken, with probiotics, to find alternatives to antibiotics in agri-farming.