

Bringing affordable, effective drugs to market quickly

Reformulating existing therapies to better suit patient need can boost outcomes, slash drug development timelines, and facilitate affordable medicine.



Dr Sarah Howell
CEO, Arecor

“**F**ast-acting insulin, heat stable vaccines, and ready-to-use liquid drug products are just a few examples of how advanced product reformulation techniques are being used to improve outcomes.

Approved combinations of advanced excipients can enhance the properties of existing therapies to better suit patient need and reduce the need for time-consuming safety trials,” said Arecor CEO Dr Sarah Howell.

The company’s Arestat™ technology, for example, uses patented combinations of formulation excipients to modify the properties of complex proteins and peptides.

She said: “We work with pharma and biotech companies to develop formats of their products that would otherwise be unachievable.

“The excipients we use are already approved for use. That allows us to advance these products with superior versions to be developed and brought to market very quickly.”

Fast-acting insulin

Fast-acting insulin is one example of where these reformulation techniques could deliver real patient benefits, she said.

“We have developed a novel formulation of insulin, AT247, that accelerates its absorption post-injection. That’s critical for people living with both type 1 and type 2 diabetes, as it helps them manage their blood glucose, particularly around mealtimes, where it rises very sharply,” says Sarah.

“We’ve done it by taking an existing product, for which the safety and effectiveness is known, and modifying its properties.

“The team now have some “fantastic” phase one clinical data to show AT247 performs “significantly faster” than the best-in-class mealtime insulin currently on the market for type 1 diabetes,” she says.

“If we can give people an insulin that works faster after they have eaten, we can help them to keep their blood sugar in a healthy range. In turn, that will help them to avoid complications like heart disease, kidney failure, limb amputation and eyesight loss.”

Applications

Other applications for the technology include reformulating powder products into ready-to-use liquids, removing the need for complex reconstitution and the associated risk of dosing errors.


Developing heat stable versions of drug products currently stored and distributed in the cold chain is also possible.

“This can be particularly important for vaccines, where heat damage can lead to people being vaccinated with a product that has no potency,” explained Sarah.

“Ultimately, advanced reformulation technologies can greatly accelerate the path to market for affordable, efficacious medicines that tackle unmet patient need,” she concluded.

Written by:

Amanda Barrell

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