PROJECT NUMBER

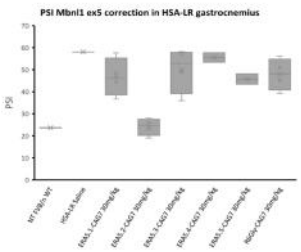
20405

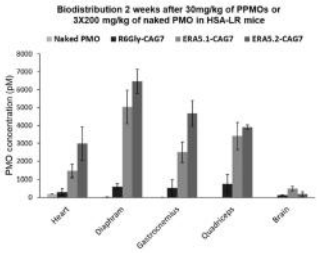
Lysine-based cell-penetrating peptides for intracellular delivery

Cell-penetrating peptides for intracellular delivery.

Using lysine instead of arginine in cell-penetrating peptides (CPP's) creates a delivery vehicle with different properties to the CPP – ASO conjugates in clinical trials. High levels of correction can be achieved with improved delivery and reduced toxicity.

Applications: Pharmaceuticals, biopharmaceuticals, drug delivery, RNA therapeutics, bioimaging, diagnostics, gene therapy





Features	Benefits
Synthetic CPP suitable for delivery of a range of small and large molecules	Can deliver nucleotides, peptides, small molecules, or antibodies intracellularly
Exon-skipping correction leads to wild-type levels of expression in disease models	Effective disease modification in vivo
The efficacy of this class of peptides is driven purely by lysine, with no arginine in the peptide	This results in different characteristics compared to CPP's in the clinic, and can therefore provide an alternative efficacy and toxicity profile
Effective biodistribution	High levels of delivery to tissues throughout the body, including improved muscle, heart and brain delivery

Features	Benefits
Different toxicity profile to peptides in the clinic	Overcomes issues seen with other CPP's. The data shows that the nephrotoxicity associated with arginine-based CPP's is unlikely
Wider therapeutic window compared to arginine-CPP's	Reduced dosage required and therefore costs

Patented and Available for

- Co-development
- Consulting
- Licensing

To find out more, contact enquiries@innovation.ox.ac.uk and quote the project number.

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