Gene Delivery

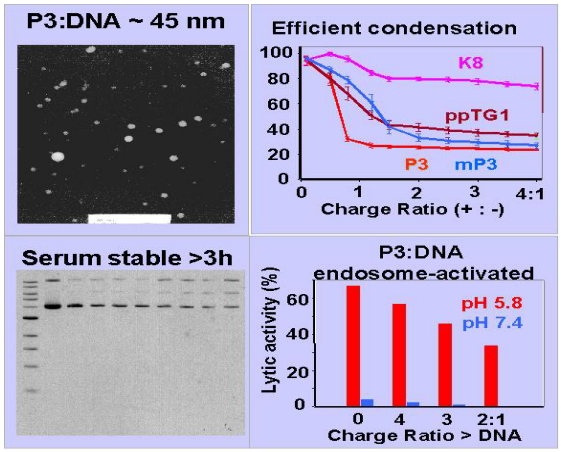
oncology peptides * cytolysins drug delivery * diagnostics peptides * liposomes

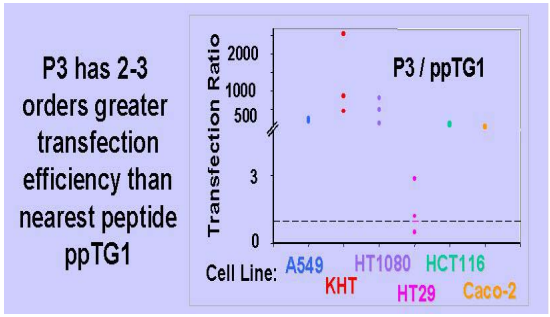
ABL has developed unique gene delivery peptides, which overcome the safety issues that have arisen with conventional viral gene delivery approaches.

ABL's peptide-based gene delivery systems provide highly efficient gene delivery and combine effective DNA condensation with viral cell trafficking functions. This is achieved by incorporation of multiple trafficking functions such as cell targeting, endosomal escape and nuclear translocation. The products have orders of magnitude higher transfection efficiency than other reported peptides.

ABL's gene delivery products are based on synthetic membrane-active peptides having multiple functionalities that protect DNA in virus-like nanoparticles with multiple trafficking functions:

- efficient DNA condensation (*eg* by ethidum bromide displacement);
- virus-sized particles (*eg* mean size of 45 nm by electron microscopy);
- high stability against serum nucleases normally degrading naked DNA in minutes (*eg* stability for longer than 3 hours in serum);
- retention of endosomal escape functionalities (*eg* pH-triggered lytic activity at pH <6 with insignificant activity at physiological pH 7.4);
- 2 to 3 orders of magnitude higher transfection efficiencies than other reported peptides for most cell lines (*eg* compared to ppTG1 peptide in A549, HT1080, HCT118, KHT & Caco2 cell lines)
- sites for attachment of desired cell receptor and nuclear translocation motifs.





Efficient DNA condensation and endosome escape (top) provide up to 1000x higher transfection (bottom)

ABL – Improving the Safety of Gene Delivery Peptides

Peptide supply, delivery solutions and *licenses available.

Advanced Biomedical Ltd
Saddleworth Business Centre
Huddersfield Road, Delph
Oldham OL3 5DF UK
Tel: +44 (0) 1457 875798
Fax: +44 (0) 1457 871088

info@advanced-biomedical.co.uk
www.advanced-biomedical.co.uk

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