J Biotech and Phyto 2017

Intracellular delivery of biomacromolecules

Nathalie Lavignac
University of Kent and Greenwich at Medway, United Kingdom

Efficient delivery of non-permeant therapeutic agents with intracellular therapeutic targets is challenging. Over the years, methods using viral and/or non-viral vectors have been developed. Synthetic polymers, often considered a safer alternative, may be tailored to improve cytoplasmic access and modulate cell specific targeting. Poly(amidoamine)s (PAAs) are a family of synthetic functional polymers developed for use as polymer therapeutics.They are synthesized by Michael addition polymerization, are generally water soluble and display pH-dependent membrane activity. We will discuss the biological rational for the development of these polymers and review their application for the delivery of macromolecular drugs (e.g. proteins, oligonucleotides).

n.lavignac@kent.ac.uk