

PRECISION DRUG DELIVERY SERVICES

From custom polymer design and synthesis to formulation of your hydrophobic API

Innovative drug delivery systems, excipients, and formulations

OUR OFFER

Development of delivery systems for various active payload (small molecule, oligonucleotides, antibody, protein).

- > World-renowned experts in NCA chemistry & Polyamino acid (PAA) technology
- > Design tailor-made excipient & development of a specific formulation for your application
- > Polymer-based pre-formulation using excipients such as TPGS, lipids, PEGylated polymers or polyamino acid (PAA)

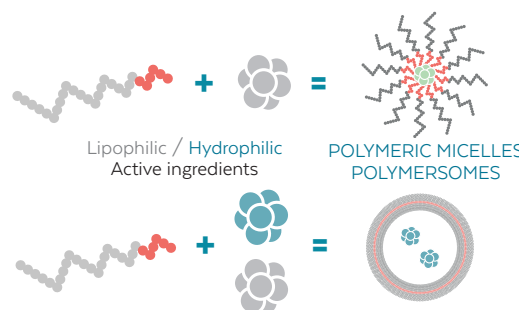
Micelles, emulsions, PEG-polymer or PAA Nanoparticles Lipid Nanoparticles (LNP), polymersomes, liposomes, nanogels, you have delivery issues with your API, we have a solution!

THE POWER OF PAA TECHNOLOGY

Elevating Drug Delivery

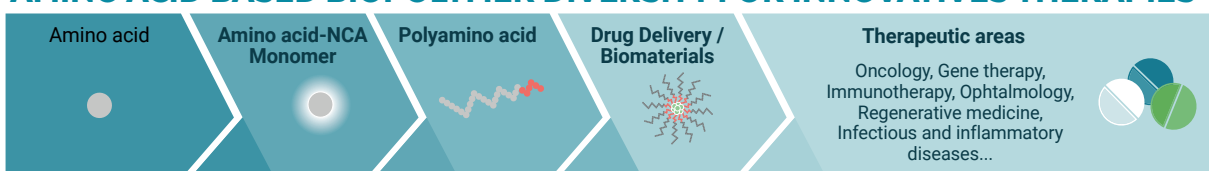
The encapsulation of APIs into our polymeric nanoparticles offers a multitude of benefits:

- > Improved Solubility of poorly water-soluble compounds
- > Enhanced Bioavailability
- > Reduced Toxicity
- > Controlled Release
- > Active Targeting of specific tissues or cells



Reformulation or repositioning of APIs without chemical modification

AMINO ACID BASED BIOPOLYMER DIVERSITY FOR INNOVATIVE THERAPIES



A UNIQUE INTEGRATED SOLUTION

- Talented & multidisciplinary R&D team
- Broad network for access cutting-edge technologies
- State-of-the-art / GLP formulation and analytical equipment
- Custom PAA synthesis by Ring Opening Polymerization (ROP) & tailor-made pre-formulation services
- Integrated NCA supply (Phosgene expert, industrial scale)

CASE STUDY: Improving aqueous solubility of various hydrophobic APIs with PSar-PGLu(OBzl) nanoparticles

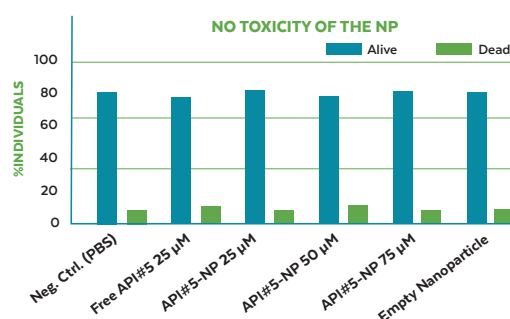
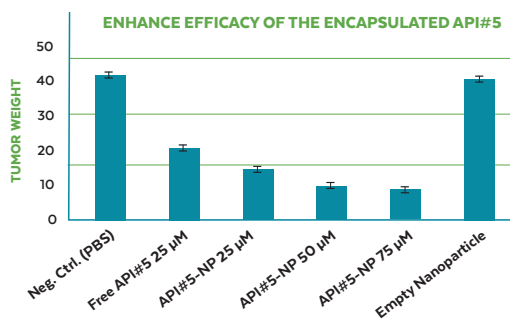
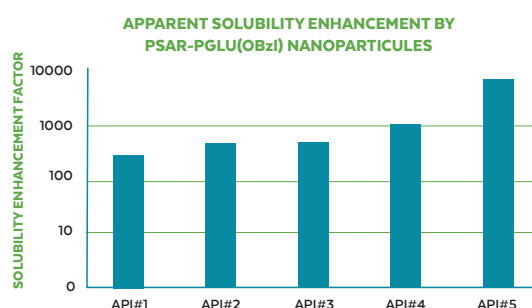
Polysarcosine (PSar) has similar properties to poly(ethylene glycol) (PEG) such as hydrophilicity, stealthiness and low toxicity with a huge advantage of being biodegradable and less immunogenic.

Various APIs were loaded in proprietary polysarcosine-b-poly(γ -benzyl glutamate) PSar-PGLu(OBzl) nanoparticles:

- **Diameter: 50-100 nm**
- **Polydispersity: < 0.2**
- **Up to 95% of loading efficiency**
- **Hydrophobic APIs solubility in water was increased from 400 to 7000**
- **No toxicity of the polymer nanoparticles**
- **API#5: optimized formulation leading to enhanced in vivo potency**

UNMATCHED CAPABILITIES

- 50 years in large scale manufacturing of drugs substances and excipients under GMP
- Process development and scale up (GMP Kilolab and Pilot)
- Analytical development & QC
- Preclinical, clinical and commercial batches of drug substance and excipient
- 3 FDA & EU qualified facilities (France)
- Full regulatory support (CMC-DMF, Documentation)



Let's find the right formulation for your API!



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