

A One Stop Shop

Amino acid

NCA

PAA



The GMP Drug Delivery offer of PMC Isochem

Promizing Functional Excipients & Drug Conjugates



PAA GMP Manufacturing

FDA Audited manufacturing plants



PAA Development & CMC

- PAA as Starting materials, Excipients or APIs.
- Integrated high quality and unique NCA catalogue.
- · Process development.
- · Analytical development.
- Full QA/Regulatory support for clinical stage.
- · CMC Dossier.



PMC Isochem: a unique integrated solution

- Highly talented & multidisciplinary R&D team with Academic connections.
- Fully equipped infrastructures and network to access cutting-edge technologies.
- Custom PAA supported by integrated NCA supply and development.

Amino acid NCA PAA

Number One in manufacture of NCA 25 years / 60 monomers

Precinical and clinical batches



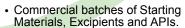
- 40 years experience in large scale GMP.
- Production of NCA and Custom of Manufacturing of PAA.
- PAA From Kilolab to full scale production.
- US & EU audited manufacturing facilities
- Regulatory experience (DMF, CMC file, ...).
- · 3 production Sites (France).

Business



- Lean approach to provide a faster, cheaper and better solution to allow you to save time, costs and to limit risks.
- Flexible and creative Business development team.

Market



 QA and regulatory affairs to cover Product/Project lifecycle management.

NCA: α-aminoacid N-CarboxyAnhydride

PAA: Poly-AminoAcid





Why a PAA based delivery technology?

Growing interest for advanced biomedicines

Polyamino acids (PAAs)-based materials have gained much attention in the field of biomedicine as they demonstrate remarkable biocompatibility and biodegradability due to the nature of the building amino acid monomers.

Production of polypeptides via ring opening polymerization of amino acid N-Carboxyahydride monomers yields narrow polydispersity, minimal side product formation, high reproducibility, versatile architectures and precise functionalization of the polypeptide backbone.

Engineering polypeptide architectures in order to mimic nature and cross biological barriers in a given pathology for drug delivery is nowadays being exploited in different preclinical studies and clinical trials.

O. Zagorodko et al, Macromol. Biosci. 2017, 17, 1600316.



Non-limiting examples of PAA - Various architectures

HOMOPOLYPEPTIDES

Poly-L-glutamate sodium salt

Poly-L-ornithine hydrochloride

Poly-L-arginine Hydrochloride

Poly-L-Lysine Hydrochloride





HYDROPHILIC COPOLYMERS + AMPHIPHILIC COPOLYMERS

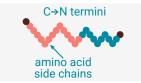
Methoxy-poly(ethylene glycol)-block-poly-L-peptide

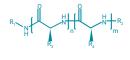
Poly-Sarcosine-block-poly-L-peptide

Poly-L-glutamate-block-poly-L-peptide

Poly-L-ornithine-block-poly-L-peptide

Methoxy-poly(ethylene glycol)-blockpoly(L-glutamic acid sodium salt)





Amphiphilic → self-assembly into micelles, polymersomes etc.





Amino acid

Amino acid-NCA Monomer Polyamino acid

Drug Delivery / Biomaterials



Therapeutic areas

Oncology, Gene therapy, Immunotherapy, Ophtalmology, Regenerative medicine, Infectious and inflammatory diseases ...

Amino acid based biopolymer diversity for innovative therapies









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Your partner for Smart Delivery Technologies



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