



ASSOLOMBARDA

Confindustria Milano Monza e Brianza

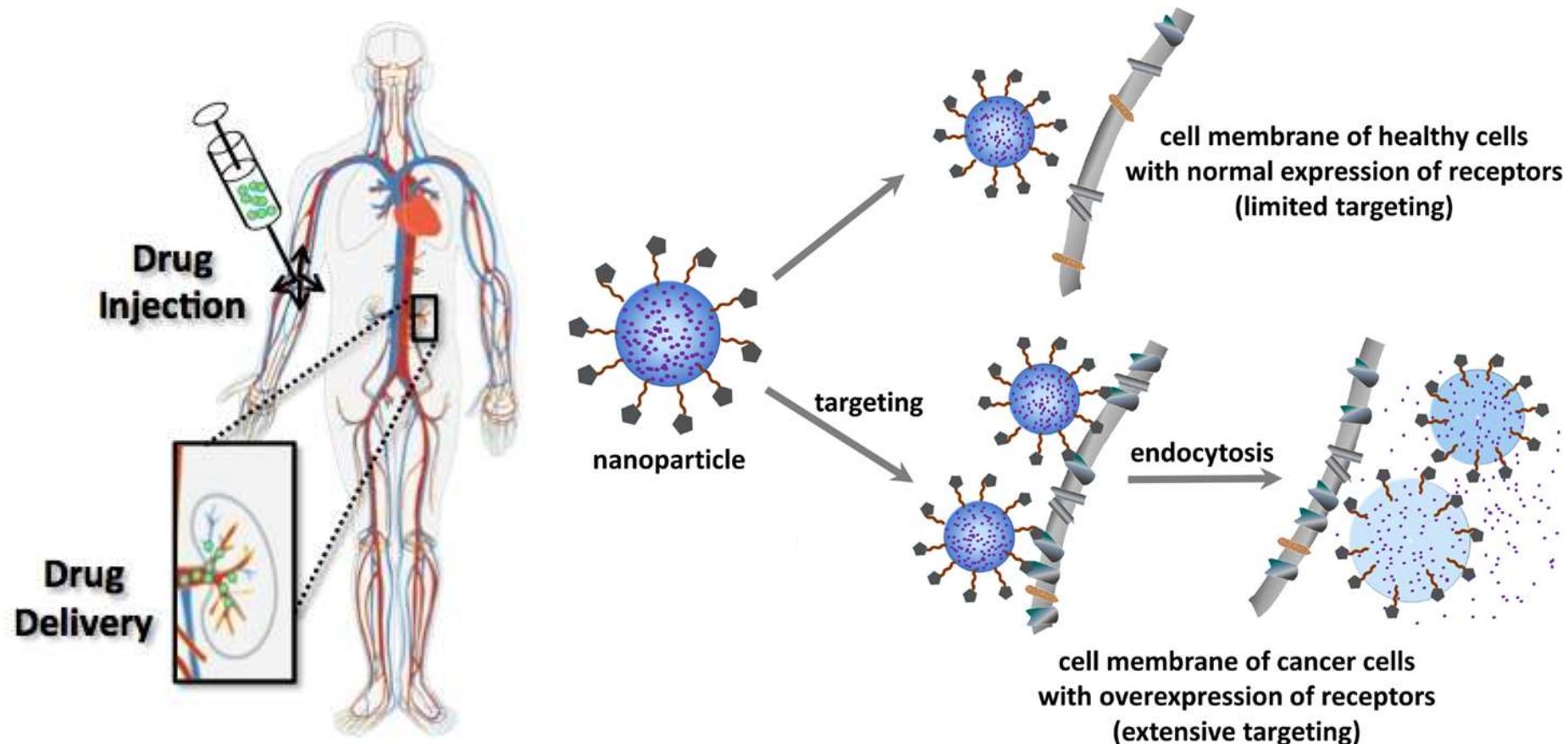
Nanoparticelle e microparticelle polimeriche per applicazioni biomediche e nel settore alimentare

Speaker

Prof. Francesco Cellesi

12 ottobre 2016

Nanomedicine – nanocarrier design



Polymer nanoparticle design

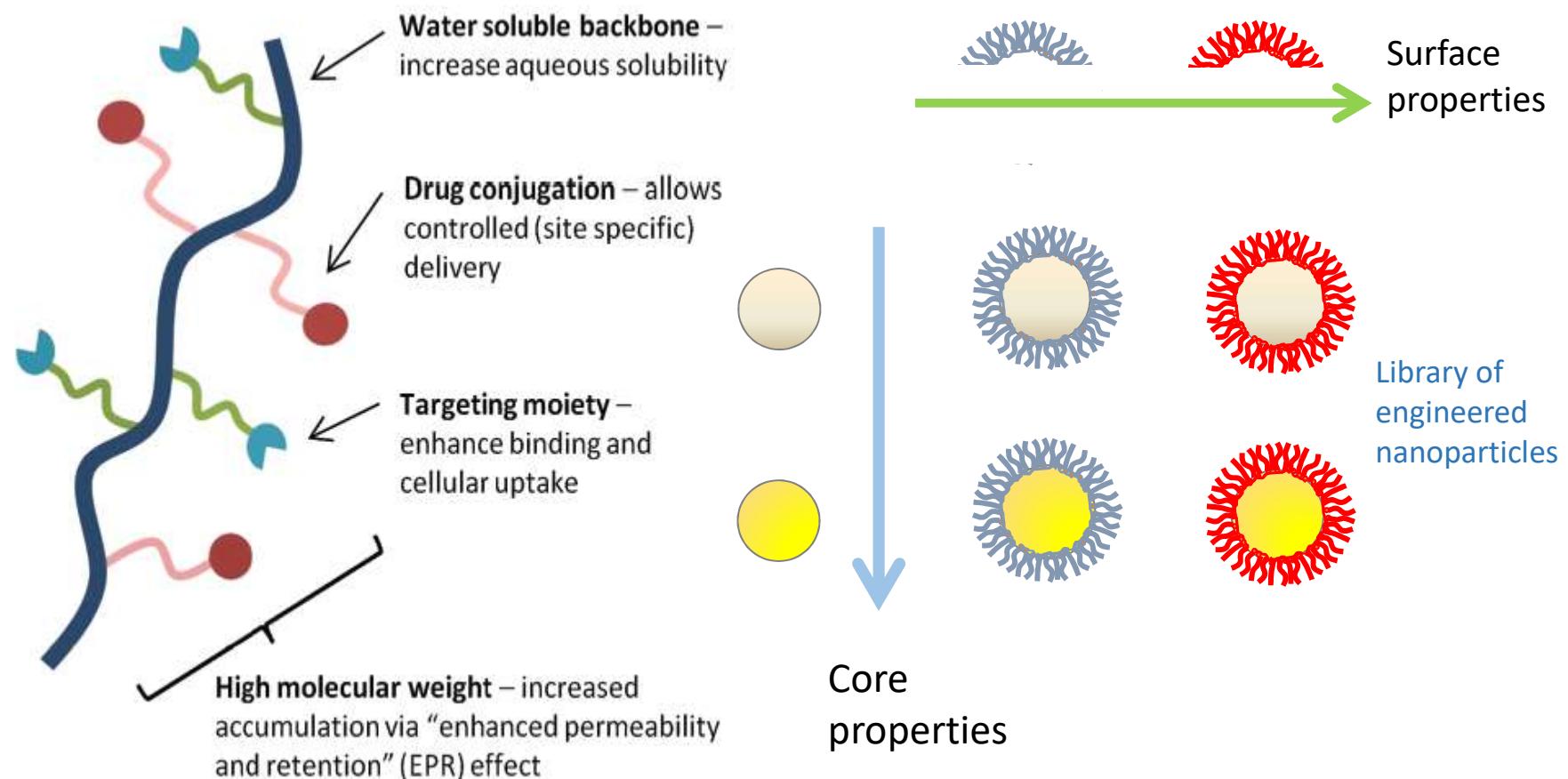
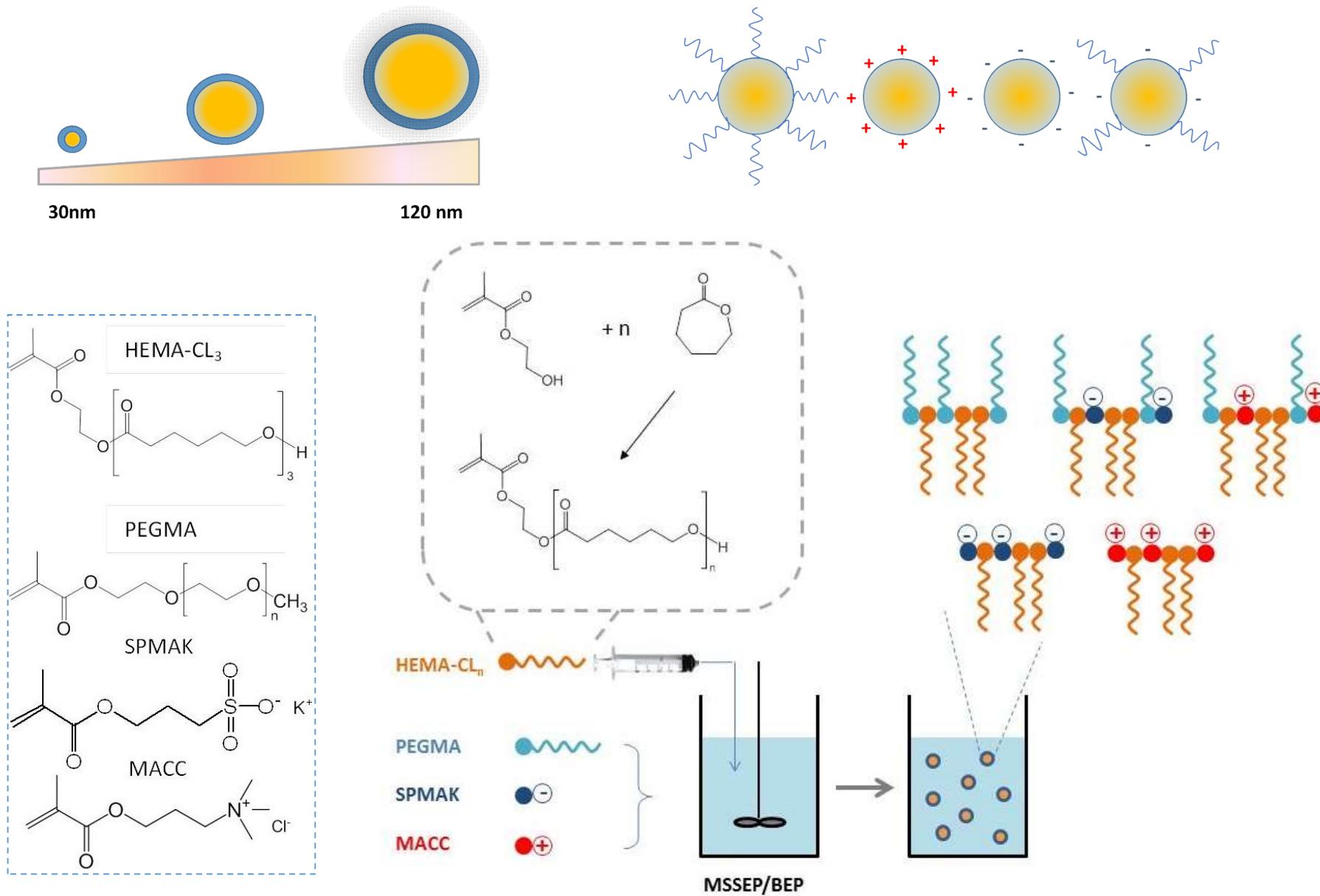
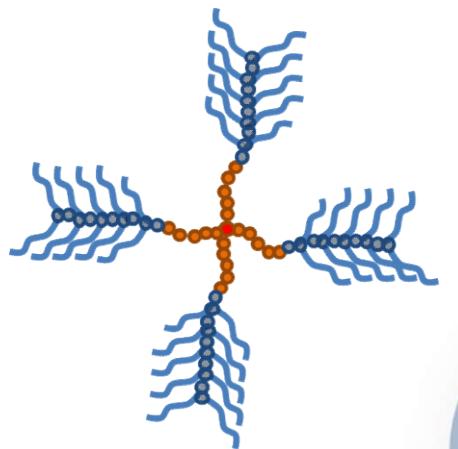


Figure 1. Rationale for drug delivery via polymer–drug conjugates.

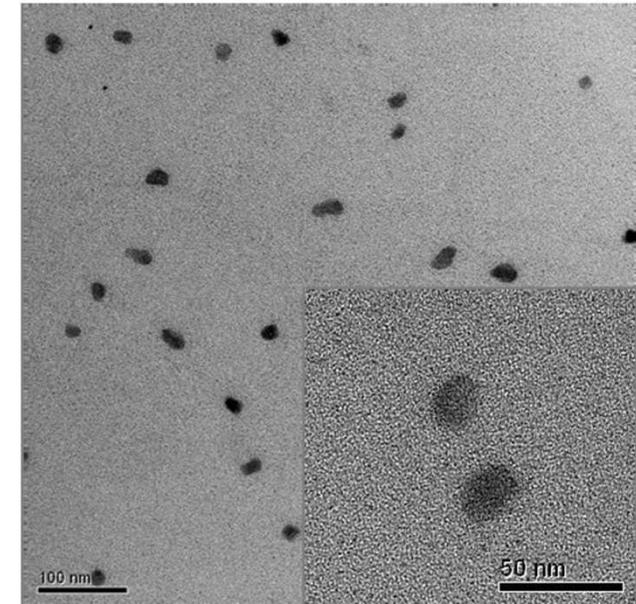
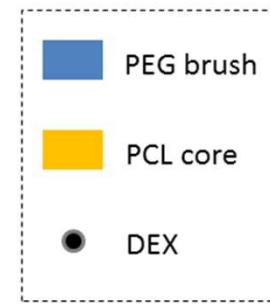
Polyester–PEG nanoparticles



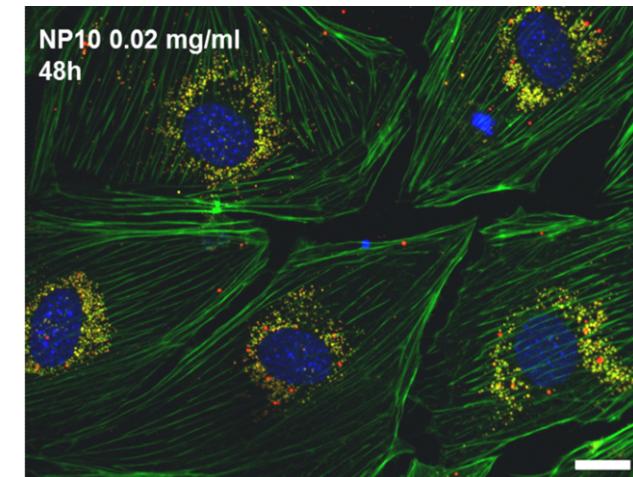
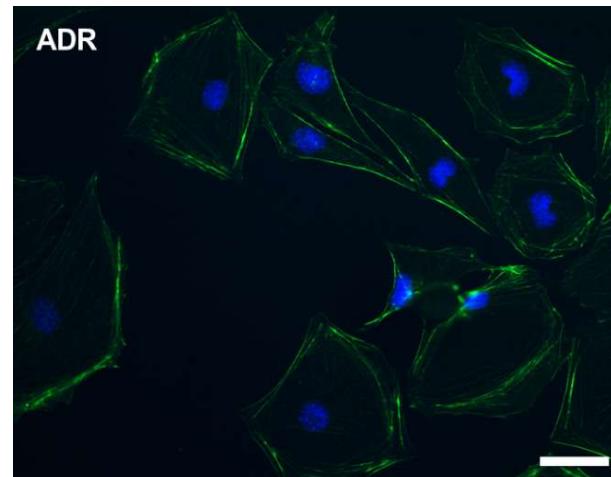
Ultrasmall nanoparticles



Unimolecular polymeric nanocarrier

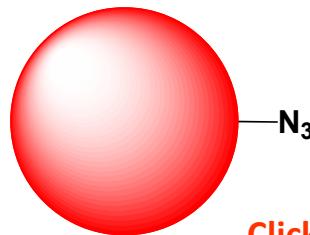


Podocyte repair in
Kidney disease models

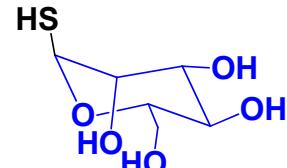
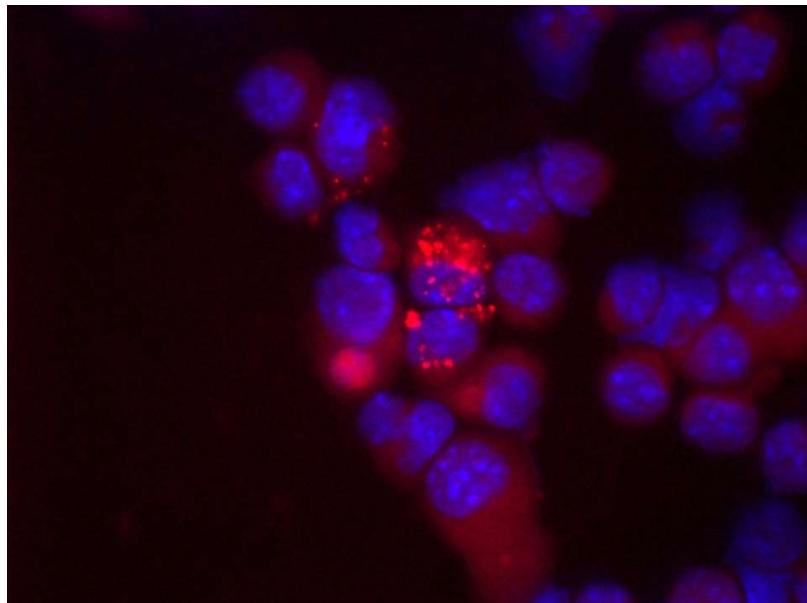
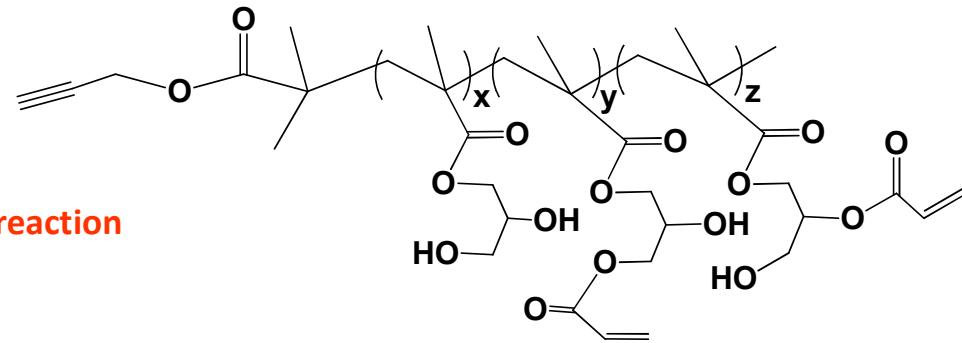


Nanovaccines/adjuvants

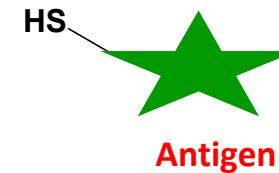
Fluorophore,traceable
Au/Fe nanoparticles



Click reaction



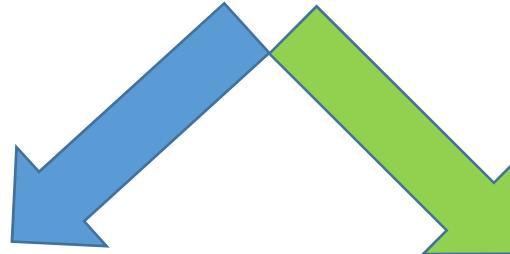
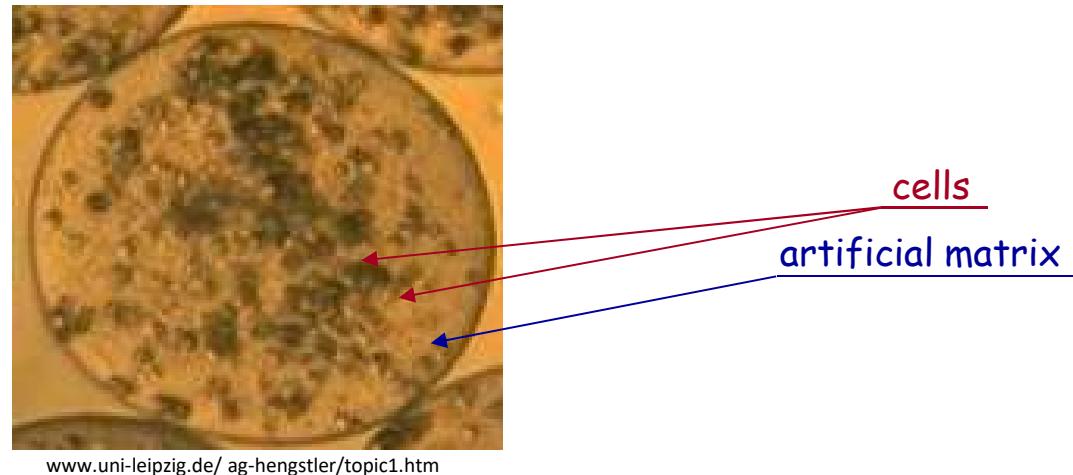
thiomannose



Antigen

Dendritic cells activation

Microparticles and microencapsulation



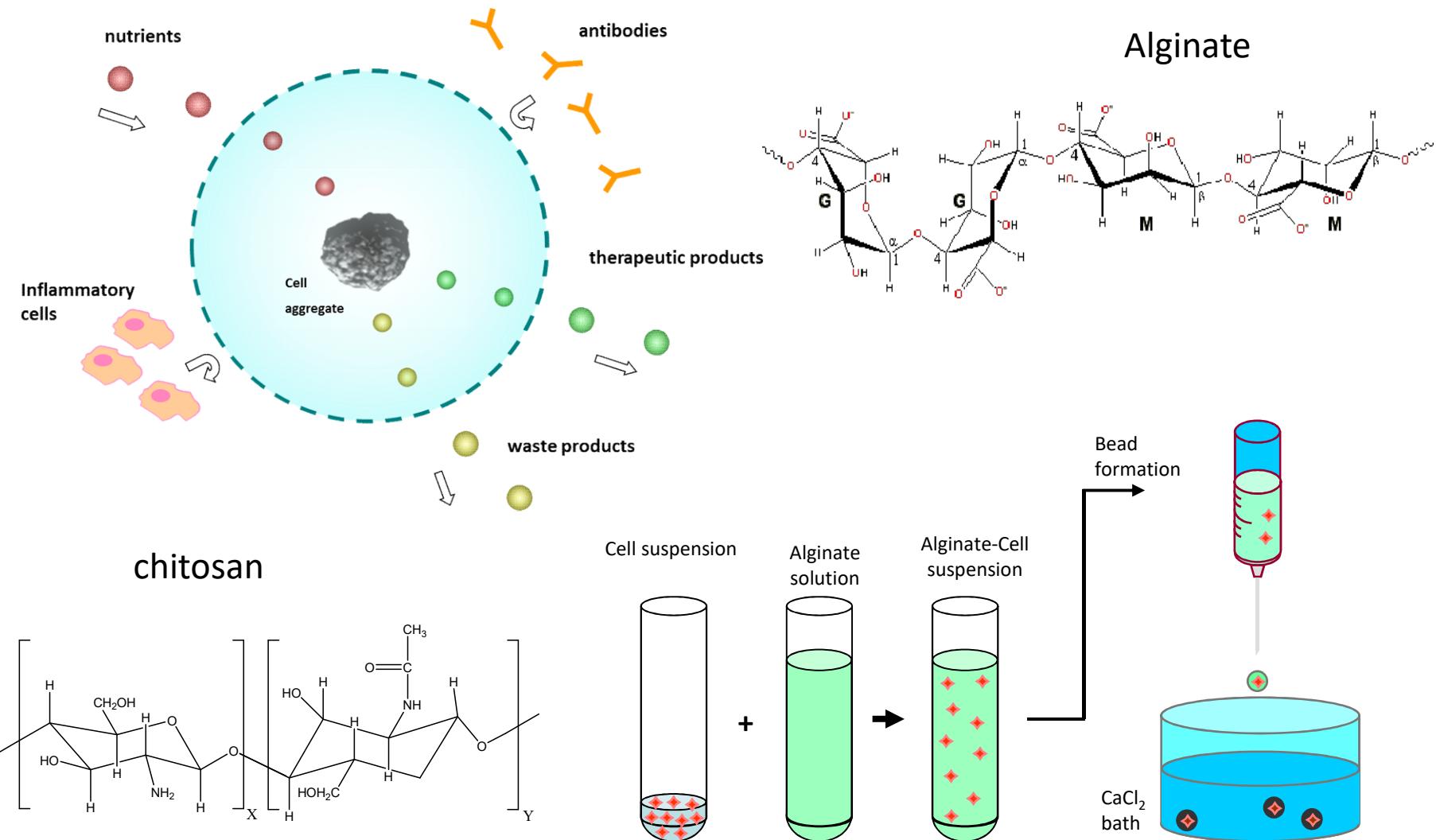
Cell encapsulation

**(Cell Therapy, biomedical
applications)**

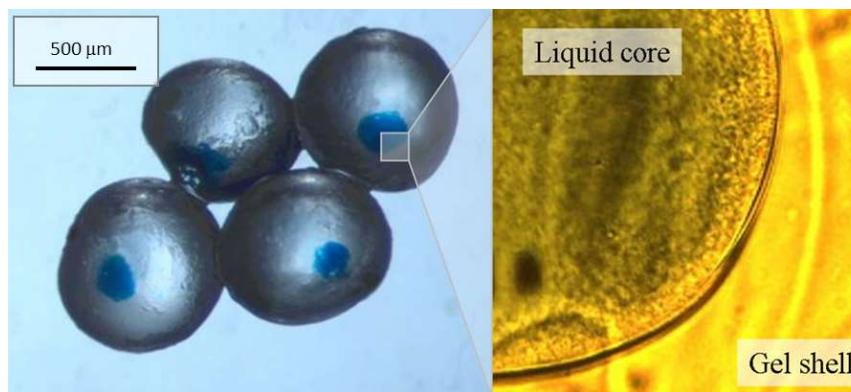
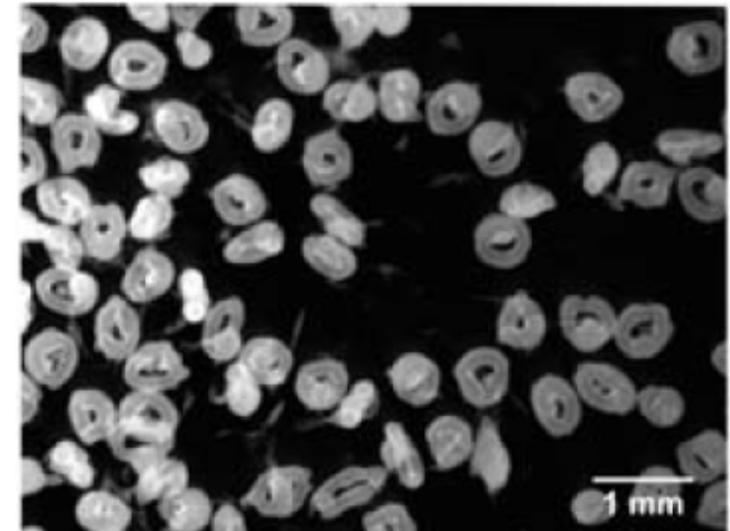
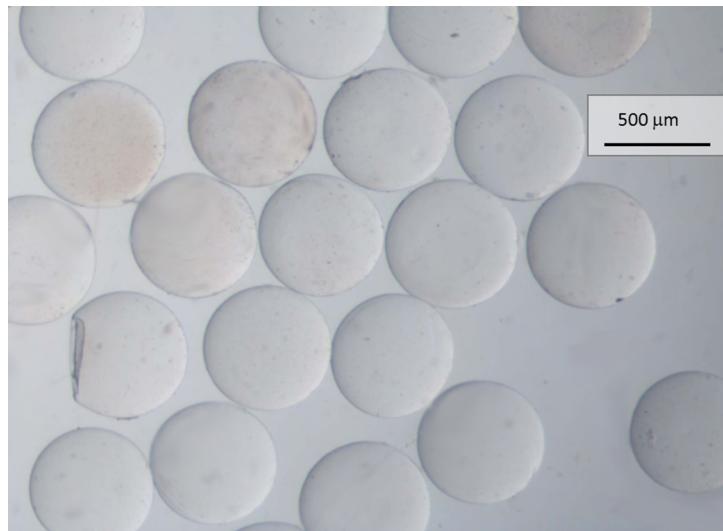
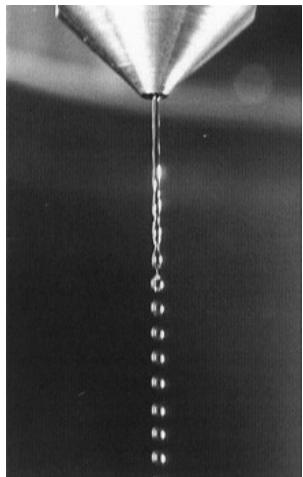
**Probiotics/prebiotics
encapsulation**

(health and food)

Microparticle design and processing



Examples of gel microparticles





Summary

- Engineered polymeric nanoparticles



- Size
- Biocompatibility
- biodegradation
- Drug loading/release
- Surface properties
- bioactivity

- Gel microparticles for microencapsulation



- Size
- Biocompatibility
- biodegradation
- porosity
- Encapsulation of cells/bioactive materials