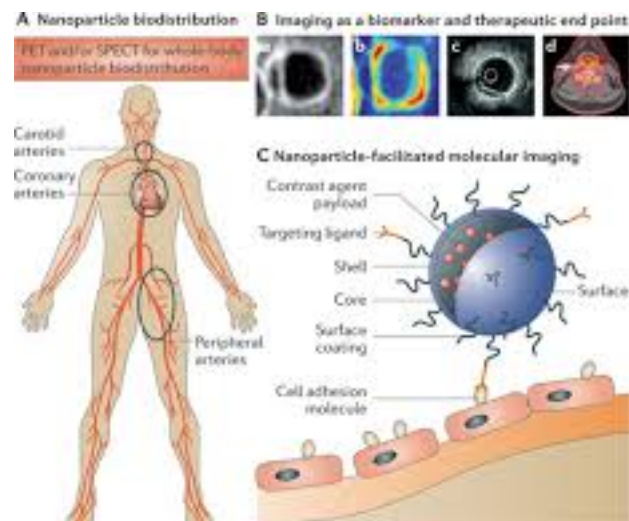
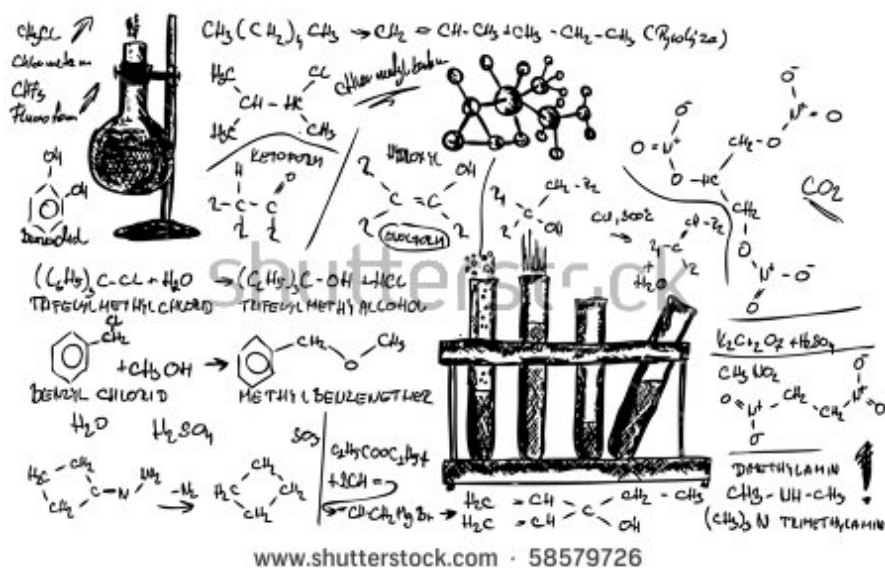


Organic Chemistry for Nanomedicine



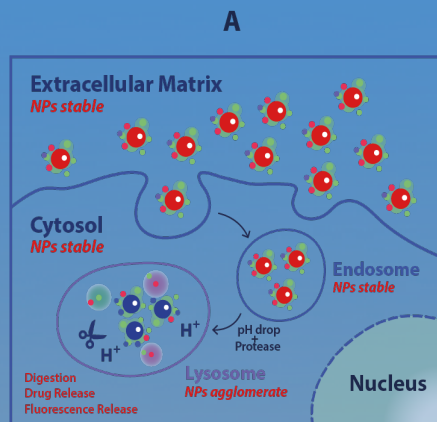
Nature Reviews | Drug Discovery

Laura Russo and Francesco Nicotra

Objectives

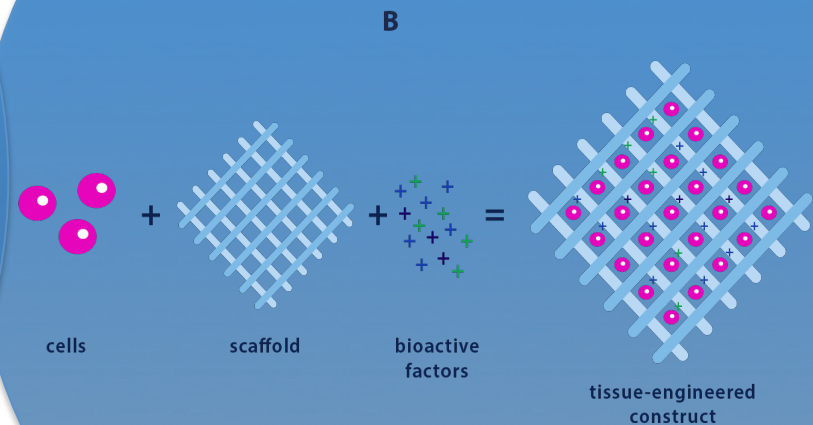
Use of nanoscale and nanostructured materials in medicine

Drug Delivery Diagnostics



Nanoparticles

Regenerative Medicine



Nano-structured materials

Monitoring, repair, construction and control of human biological systems at the molecular level, using engineered nanodevices and nanostructures

Ongoing Project

Development of nanomaterials for multimodal imaging of pancreatic beta cells.



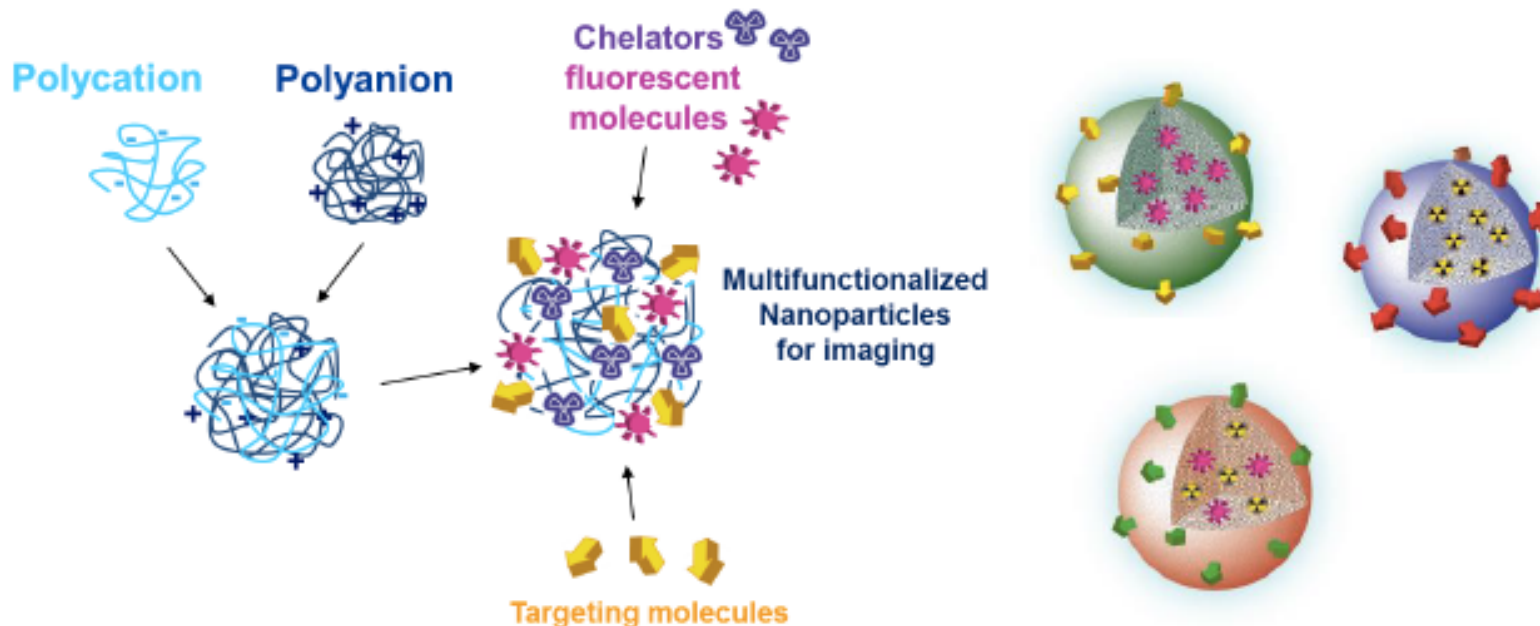
H2020-NMBP-15-2017

iNanoBit

<http://inanobit.eu/>

The nanomaterials will be functionalized with:

- 1) a ligand of beta-cell receptor (targeting molecule),
- 2) a chelator for PET, SPECT or MRI diagnosis,
- 3) a NIR dye for a new optoacoustic diagnostic approach.



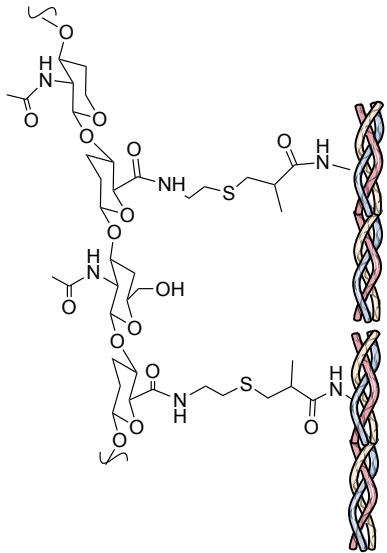
Ongoing Project

Synthetic 3D-Bio-printed cell microenvironments

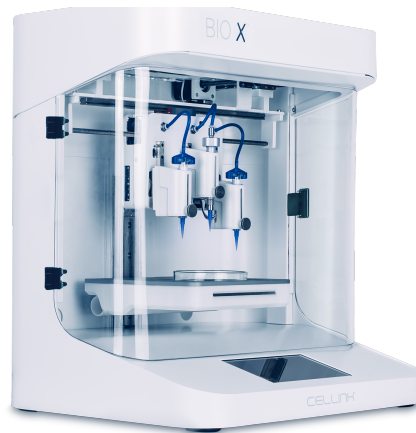
- Synthesis of bio-materials properly functionalized
- Bioprinting with cells
- Different architecture with tailored gradient and stiffness
- Study of the cell fate (regeneration / pathology)



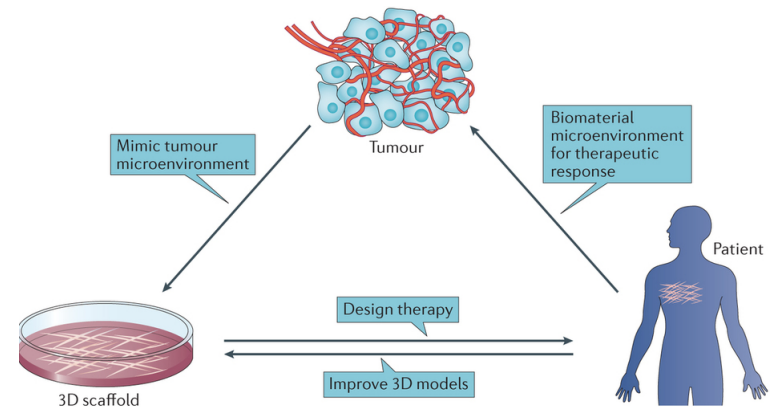
Ministero della Salute
Bando Ricerca Finalizzata
Rf-2016-02362946



Hydrogel formation



3D Bio-printing



Cell fate tests