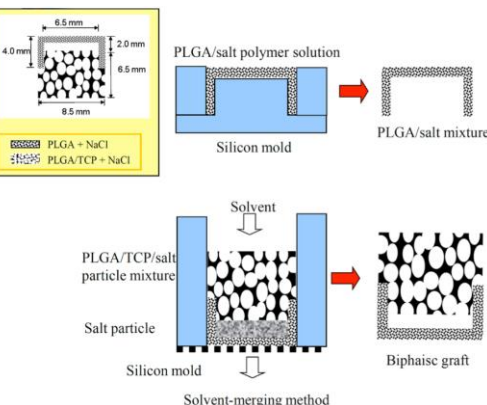
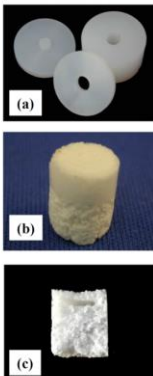


林進裕老師

研究領域：幹細胞組織工程，藥物與基因遞送奈米材料，骨科生醫材料，基因工程與基因治療。



PLGA/TCP/salt particle mixture
Salt particle
Silicon mold
Solvent-merging method
Biphasic graft



(a) (b) (c)

Proposed mind map

- High-valued implanted medical device
- Personal medicine oriented bioreactor
- “On-bedside” oriented ASCs immediately retrieved and genetically modified technology

Process control and development, modulated medical device for personal medicine

- Intervertebral disk regeneration and pain control (inflammation)
- Infectious control and prevention
- Transdermal genetic nano drugs for neurodegenerative disease

Genetic Tissue Engineering and Nano Therapeutics Laboratory (GEANT Lab)

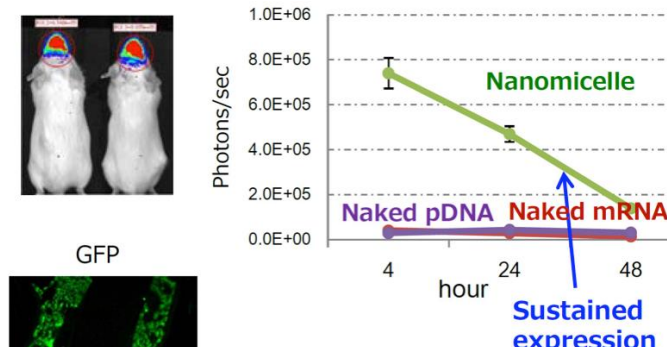
Genetic Tissue Engineering – Disease model therapy oriented development of cells, BV, NP and scaffolds

- BV vaccine (Dengue fever)
- Brain tumor therapy w/ surface ligand modified BV
- BV mediated IVD therapy, ASCs delivery matrix, hydrogel

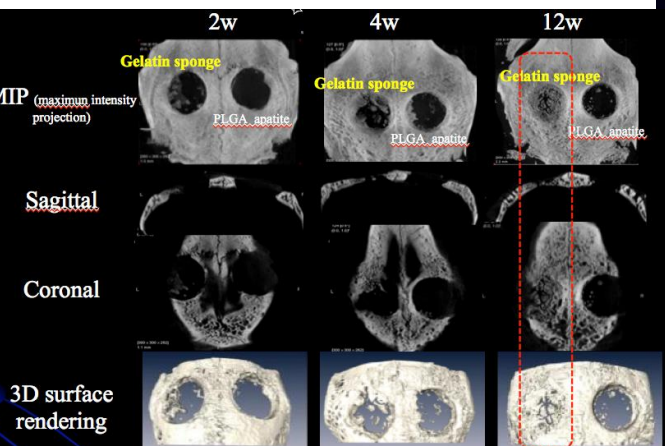
Nano therapeutics – RNA based polymeric nanomicelles (siRNA, mRNA)

- Brain tumor therapy w/ ligand modified nanoparticle
- Virus hybrid NP
- mRNA based next generation of vaccine

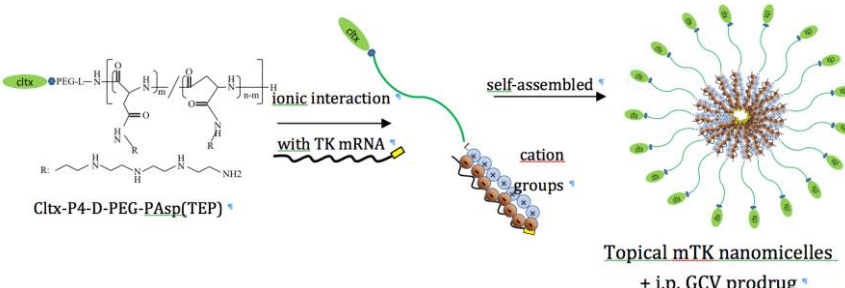
NP and BV elicited systemic immune response, evaluation of safety concern arisen.



GFP
Hoechst
Photons/sec
hour
Nanomicelle
Naked pDNA
Naked mRNA
Sustained expression



2w 4w 12w
MIP (maximum intensity projection)
Sagittal
Coronal
3D surface rendering



Ctx-P4-D-PEG-PAsp(TEP)
ionic interaction
with TK mRNA
self-assembled
cation groups
Topical mTK nanomicelles + i.p. GCV prodrug