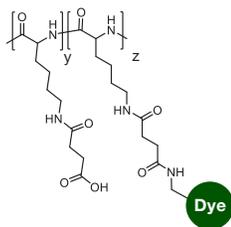


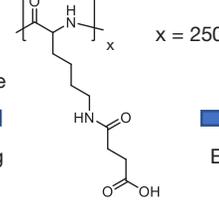
# Scavenger Receptor A1-Targeted Macromolecular Prodrug Platform

The National Cancer Institute (NCI) seeks licensing and/or co-development research collaborations for a polymer drug delivery platform that targets scavenger receptor A1, a receptor highly expressed in macrophages, monocytes, mast cells, and dendritic cells (myeloid lineages), as well as endothelial cells. The platform can deliver various immunomodulatory therapeutic cargo including small molecule drugs, therapeutic peptides, and vaccines, to the lymphatic system, as well as myeloid/antigen presenting cell (APC) sub-populations. The platform is based on the anionic polymer poly(L-lysine succinylated), which contains side chains with pendant carboxylic acids that allow conjugation of drugs through hydrolysable ester bonds.

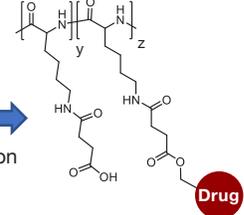
## Imaging Agent



## Poly(L-lysine succinylated)

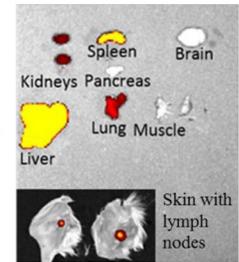
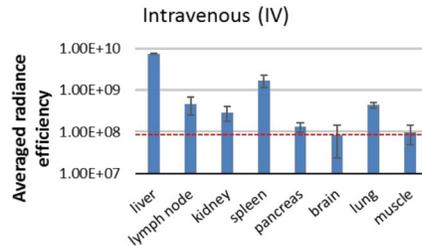
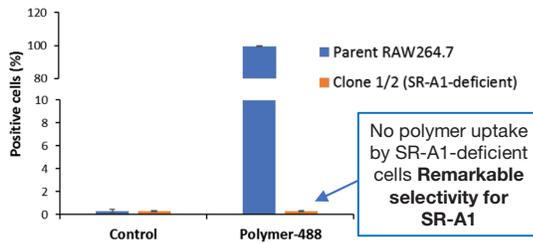


## Macromolecular Prodrug



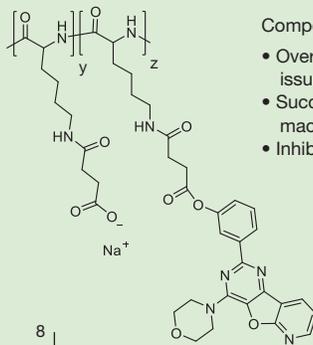
Fluorescent dye  
← Amide coupling

→ Drug  
Esterification



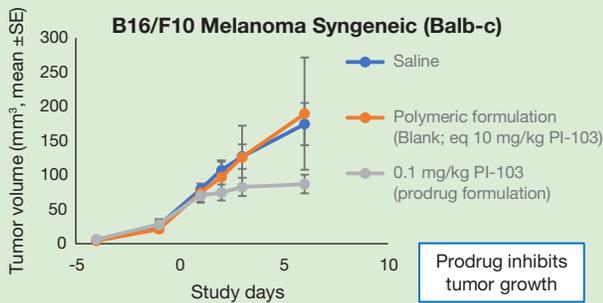
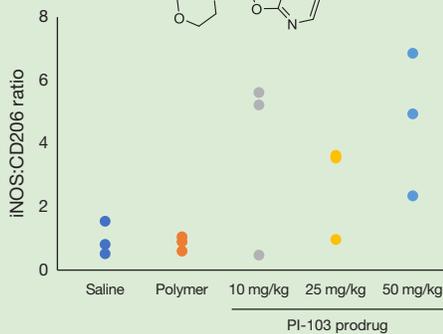
Polymer distributes to lymphatic organs

## PI-103 (pan-class I PI3K/mTOR inhibitor) prodrug version

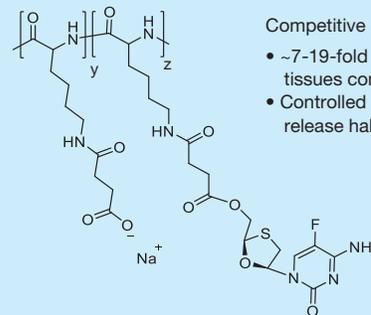


Competitive advantages:

- Overcomes solubility and instability issues of PI-103
- Successfully induces M1 polarization in macrophages
- Inhibits tumor growth at very low doses

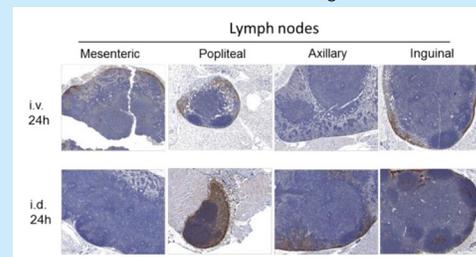


## Emtricitabine (HIV reverse transcriptase inhibitor) prodrug version

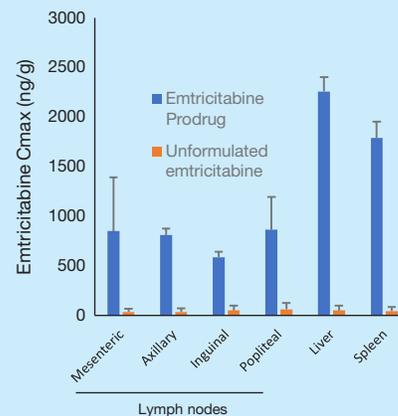


Competitive advantages:

- ~7-19-fold higher Cmax in lymphatic tissues compared to unformulated drug
- Controlled release properties with ~10 h release half-life



Polymer accumulates in lymph nodes over 24 h



## For More Information Contact:

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NATIONAL  
CANCER  
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