

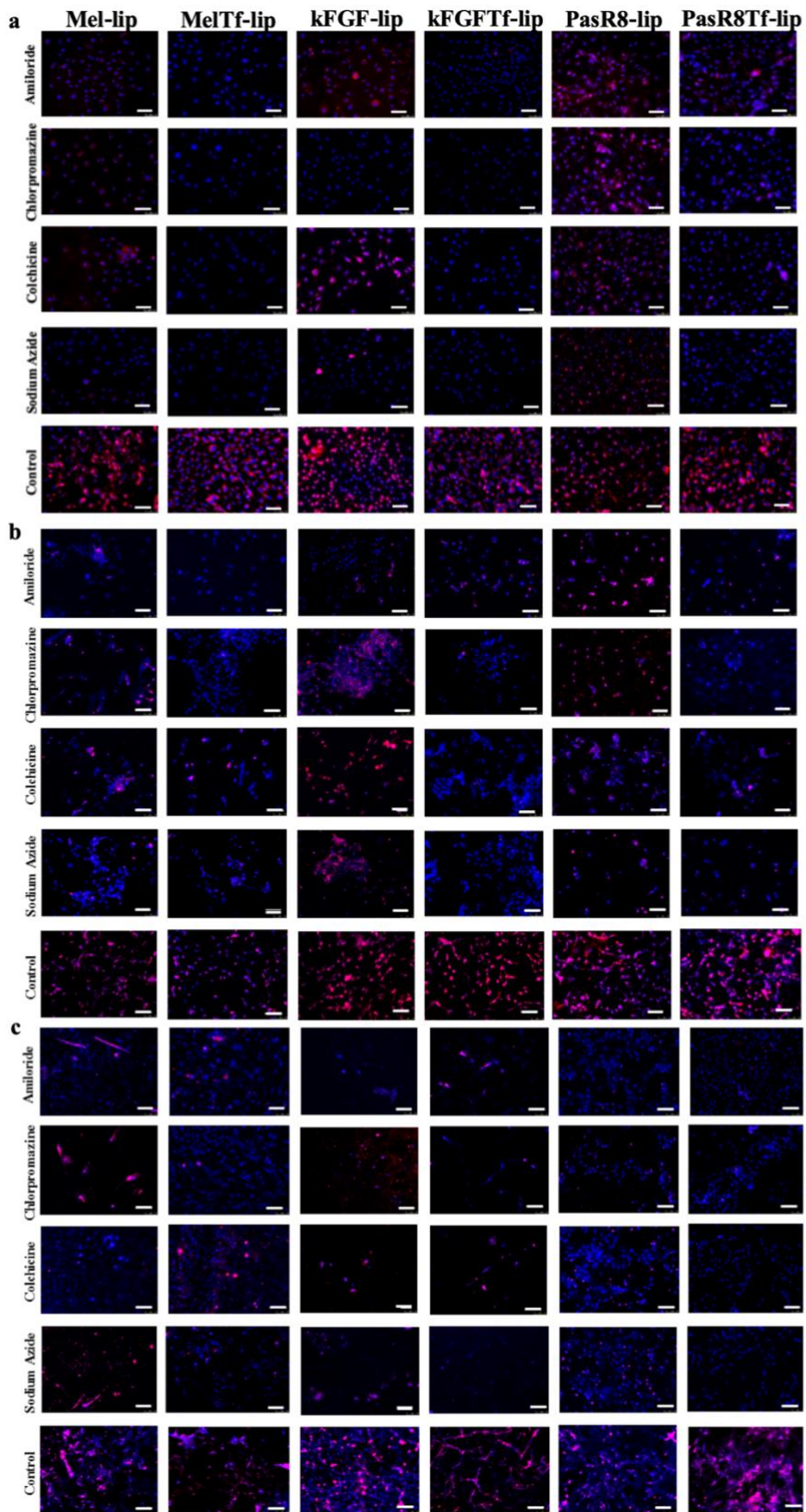
Supplemental data

Dual-Modified Liposome for Targeted and Enhanced Gene Delivery into Mice Brain

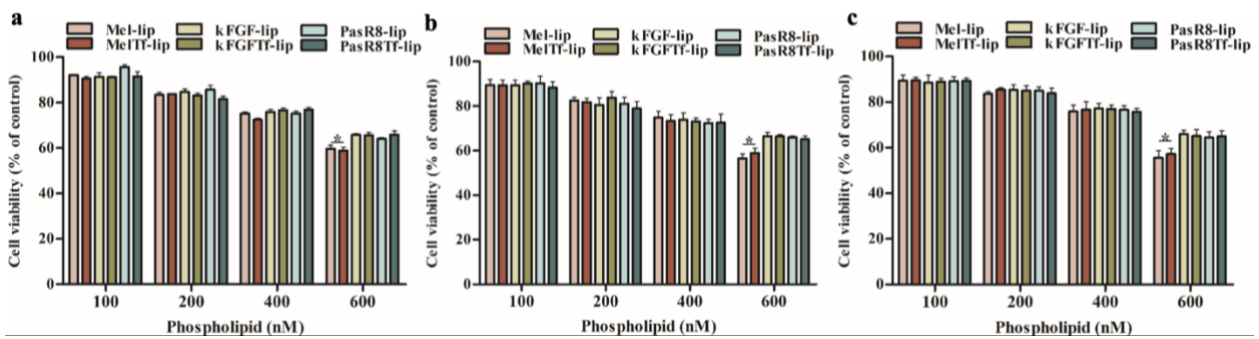
Bruna dos Santos Rodrigues, Sushant Lakkadwala, Takahisa Kanekiyo and Jagdish Singh

Supplemental Table 1: Participle size and encapsulation efficiency of kFGFTf-liposomes (380 nM phospholipid) containing different amount of pDNA-chitosan complexes

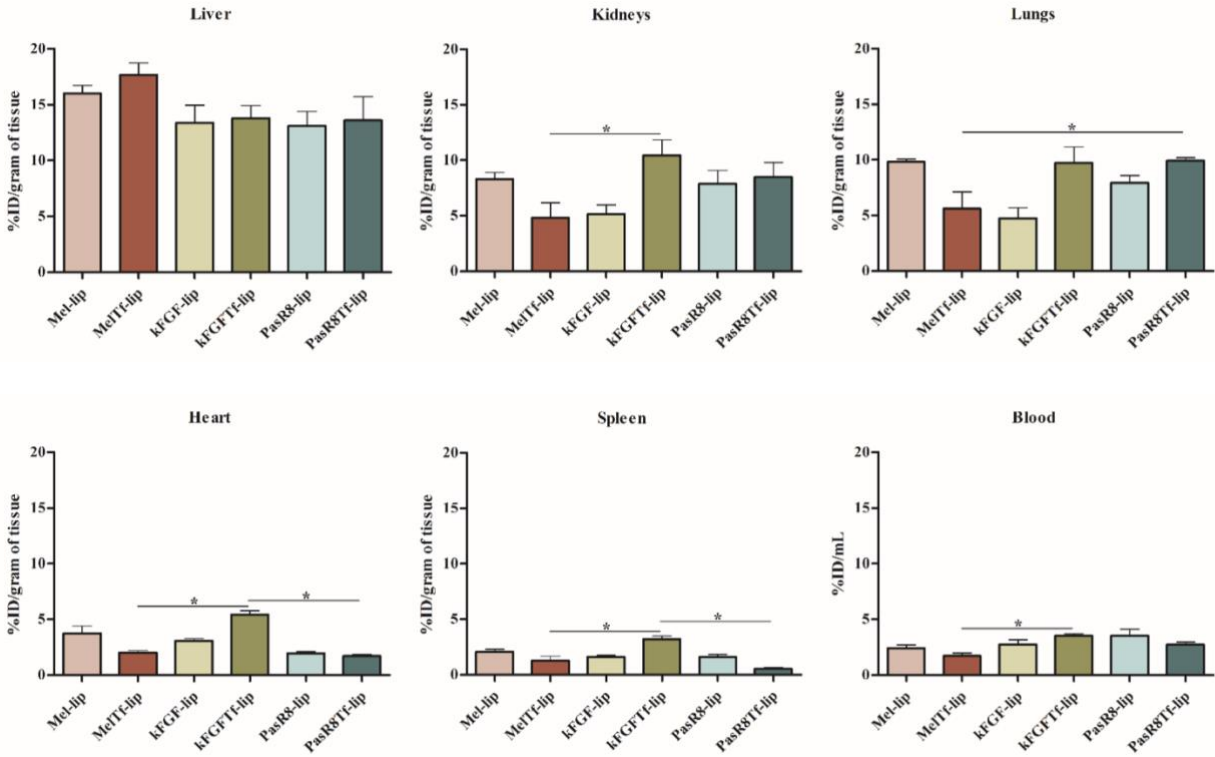
Characterization of liposomes	kFGFTf-liposomes	
	380 nM phospholipid + 25 µg pDNA complexed to chitosan (N/P=5)	380 nM phospholipid + 500 µg pDNA complexed to chitosan (N/P=5)
Particle size	153.1±3.72	154.3±1.35
Encapsulation Efficiency	91.3±5.54%	89.5±0,91%



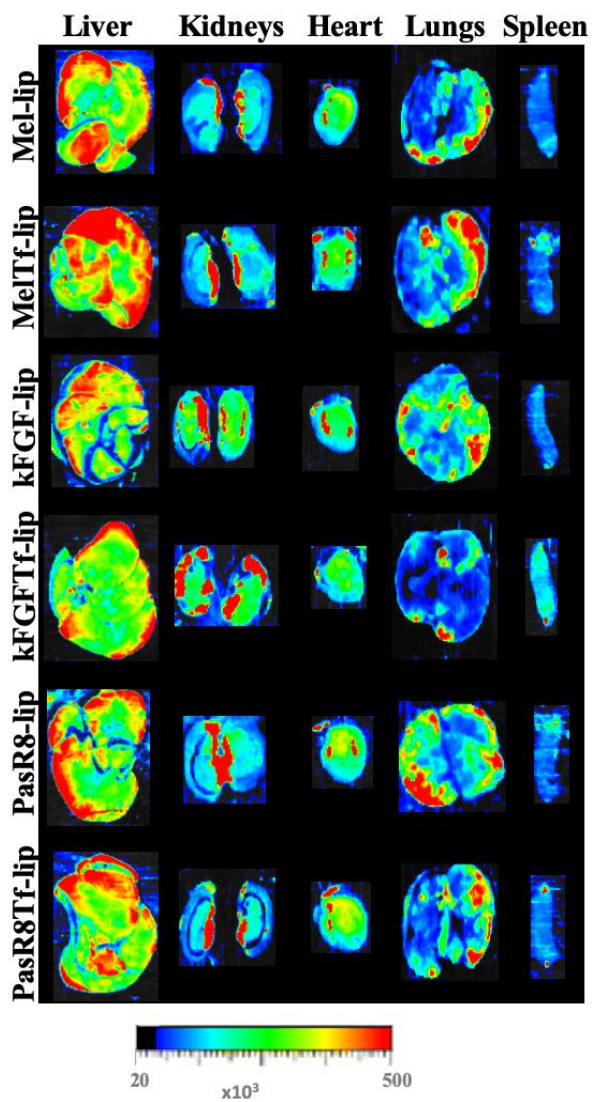
Supplemental Figure 1. Fluorescence microscopy images indicating the effect on uptake of Mel-lip, MelTf-lip, kFGF-lip, kFGFTf-lip, PasR8-lip and PasR8Tf-liposomes after 4 h of incubation in bEnd.3 (a), primary astrocytes (b) and primary neuronal cells (c) pretreated with endocytosis inhibitors (amiloride, chlorpromazine, colchicine and sodium azide) (Scale bar depicts 100 μ m).



Supplemental Figure 2. β -galactosidase activity induced in bEnd.3 (a), primary astrocytes (b) and primary neuronal cells (c) after 48 h of treatment with Mel-lip, MelTf-lip, kFGF-lip, kFGFTf-lip, PasR8-lip and PasR8Tf -liposomes containing chitosan- β gal complexes as determined by β gal assay kit. Data are expressed as mean \pm SD (n=4). Statistically significant ($p < 0.05$) differences are shown as (*) with control, (#) with Lipofectamine 3000 and (†) with Mel-lip, kFGF-lip and PasR8-liposomes.



Supplemental Figure 3. *In vivo* biodistribution of Mel-lip, MelTf-lip, kFGF-, kFGFTf-, PasR8- and PasR8Tf-liposomes in liver, kidneys, heart, lungs, spleen and blood of CB57BL/6J mice after 24 h of liposomal administration. Data are expressed as mean \pm SE (n=6). Statistically significant ($p < 0.05$) differences are shown as (*).



Supplemental Figure 4. Near-Infrared (NIR) imaging of relative fluorescence intensity in liver, kidneys, heart, lungs and spleen from C57BL/6J mice 24 h after administration of Mel-lip, MelTf-lip, kFGF-lip, kFGFTf-lip, PasR8-lip and PasR8Tf-liposomes.