

# Supporting Information

# Transmembrane Pathways and Mechanisms of Rod-like Paclitaxel Nanocrystals through MDCK Polarized Monolayer

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**Table S1.** Particle size, PDI and  $\zeta$  potential changes of PTX-NCs in DMEM within 24 h.

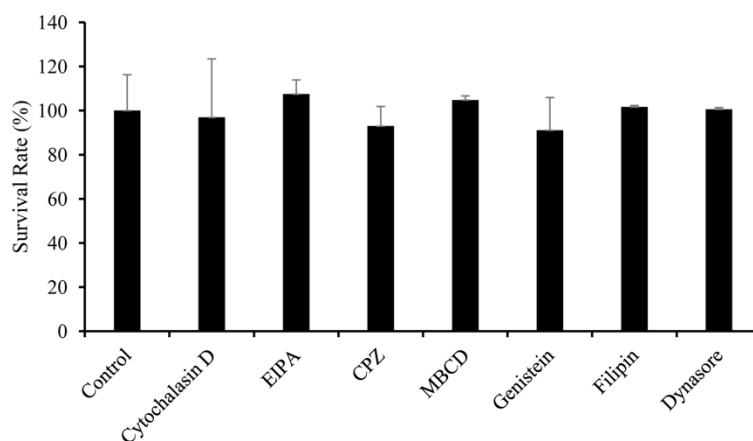
Time (h)	Particle size (nm)	PDI	$\zeta$ potential (mV)
0	250.1 $\pm$ 3.0	0.172 $\pm$ 0.021	-0.012 $\pm$ 0.041
4	247.4 $\pm$ 4.5	0.171 $\pm$ 0.001	0.005 $\pm$ 0.552
8	248.8 $\pm$ 6.5	0.169 $\pm$ 0.010	-0.193 $\pm$ 0.359
24	217.2 $\pm$ 0.9	0.198 $\pm$ 0.002	-0.392 $\pm$ 0.118

**Table S2.** Concentrations of the endocytosis inhibitors.

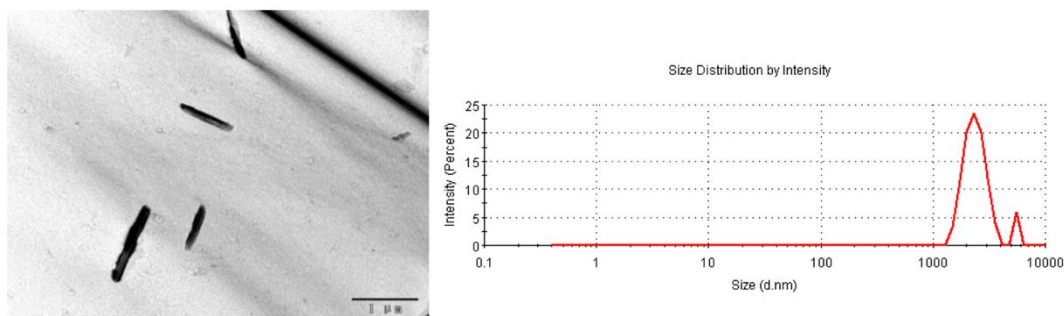
Endocytosis inhibitors	Concentration
M $\beta$ CD	5 mM
Genistein	100 $\mu$ M
EIPA	100 $\mu$ M
Filipin	2.5 $\mu$ g/mL
CPZ	50 $\mu$ M
Cytochalasin D	0.5 $\mu$ M
Dynasore	80 $\mu$ g/mL

**Table S3.** Concentrations of the transmembrane inhibitors.

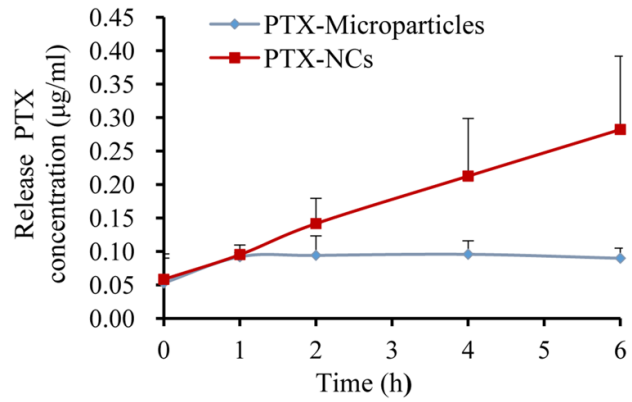
Endocytosis inhibitors	Concentration
Brefeldin	100 $\mu\text{M}$
Bafilomycin A1	2.5 $\mu\text{g/mL}$
ZCL 278	50 $\mu\text{M}$
Cytochalasin D	0.5 $\mu\text{M}$
Monensin	80 $\mu\text{g/mL}$



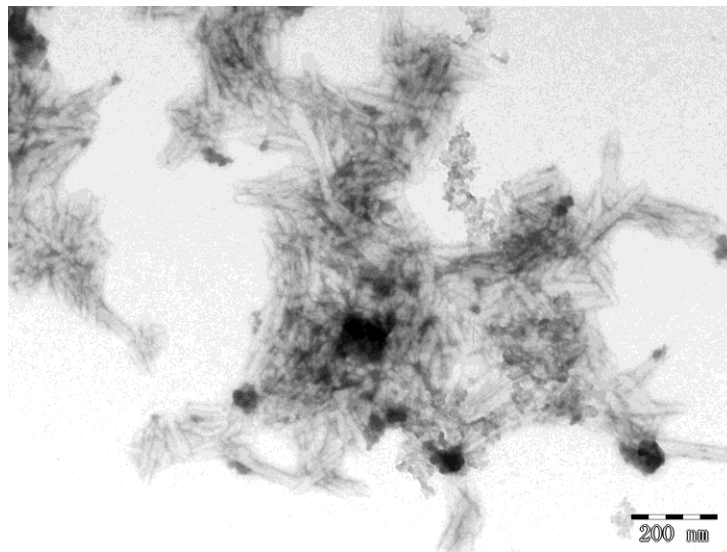
**Figure S1.** The cytotoxicity of endocytosis inhibitors (with concentration in Table S2) was evaluated before investigation of endocytosis pathway as the described in “Cytotoxicity analysis of PTX-NCs” part. No obvious difference was observed.



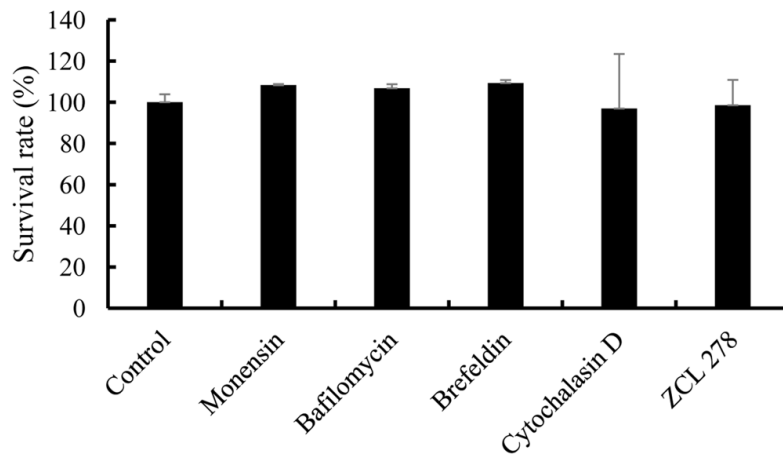
**Figure S2.** The TEM and DLS images of PTX microparticles. The size was in micrometer-scale (larger than  $1\mu\text{m}$ ) and the shape was like bars.



**Figure S3.** The leakage of PTX-NCs and PTX microparticles analyzed by HPLC. The leakage concentration of PTX-NCs was about 0.3 µg/mL in 6 h, while the leakage concentration of PTX microparticles was only 0.1 µg/mL in 6 h.



**Figure S4.** TEM images of agglomerated PTX-NCs.



**Figure S5.** The cytotoxicity of transcytosis inhibitors (with concentration in Table S3) was evaluated before investigation of transcytosis pathway as the described in “Cytotoxicity analysis of PTX-NCs” part. No significant difference was observed.