

Supplemental Information

Development and Characterization of an In Vitro Round Window Membrane Model for Drug Permeability Evaluations

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Table S1. Table for the pertinent physiochemical properties of model pharmaceuticals used in the manuscript

Drug	Molecular weight (g/mol)	Chemical Formula	log P
Fluorescein	332.3	C ₂₀ H ₁₂ O ₅	3.88
Dexamethasone Sodium Phosphate	516.405	C ₂₂ H ₃₀ FO ₈ P	1.56
Ciprofloxacin HCl	367.8	C ₁₇ H ₂₁ ClFN ₃ O ₄	-0.86
Gentamicin sulfate	1488.8	C ₆₀ H ₁₂₅ N ₁₅ O ₂₅ S	-3.1

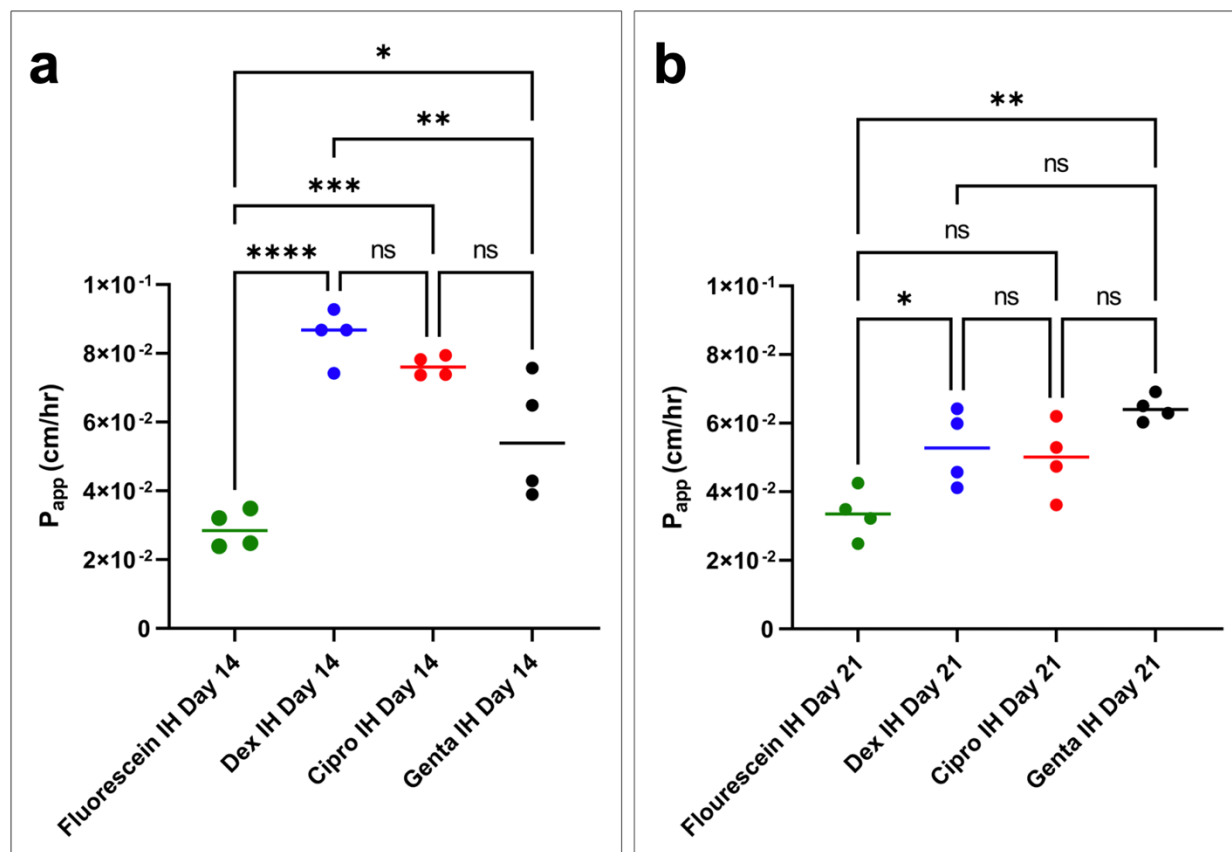


Figure S1. Tissue growth time effect on RWM model drug permeation. Drug flux of profile for fluorescein, DSP, ciprofloxacin HCl, and gentamicin sulfate in (a) day 14; and (b) day 21 AETs. n = 4. One-way ANOVA with Tukey's correction for multiple comparisons; where ***p<0.001, ****p<0.0001, **p<0.01, *p<0.05 as value of significance.

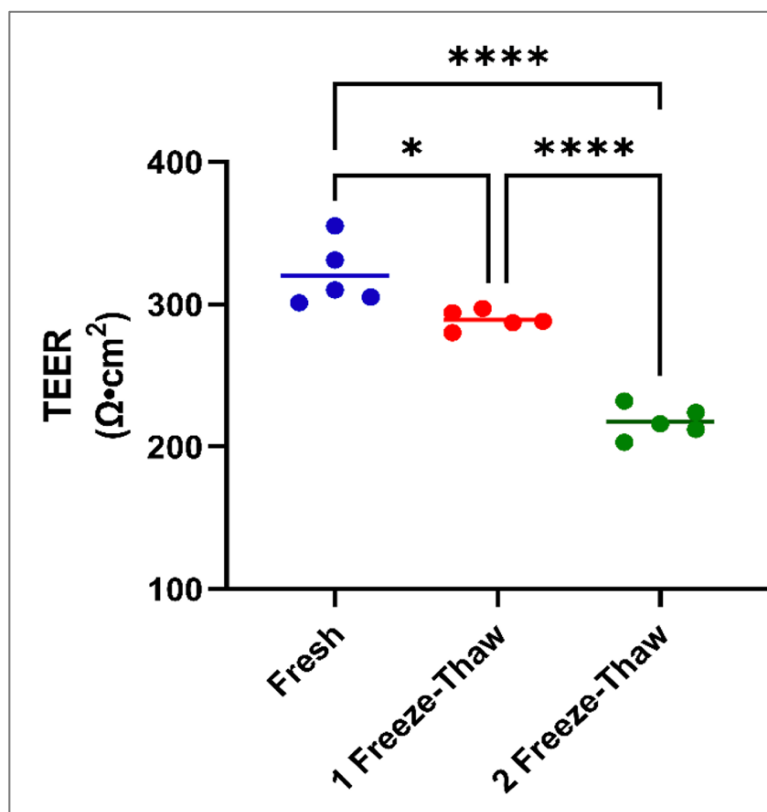


Figure S2. Tissue freeze/thawing has a significant effect AET TEER. Effect of freeze/thaw processing cycles on tissue TEER values (n = 5), One-way ANOVA with Tukey's correction for multiple comparisons, where * ***p<0.0001, *p<0.01 as value of significance.