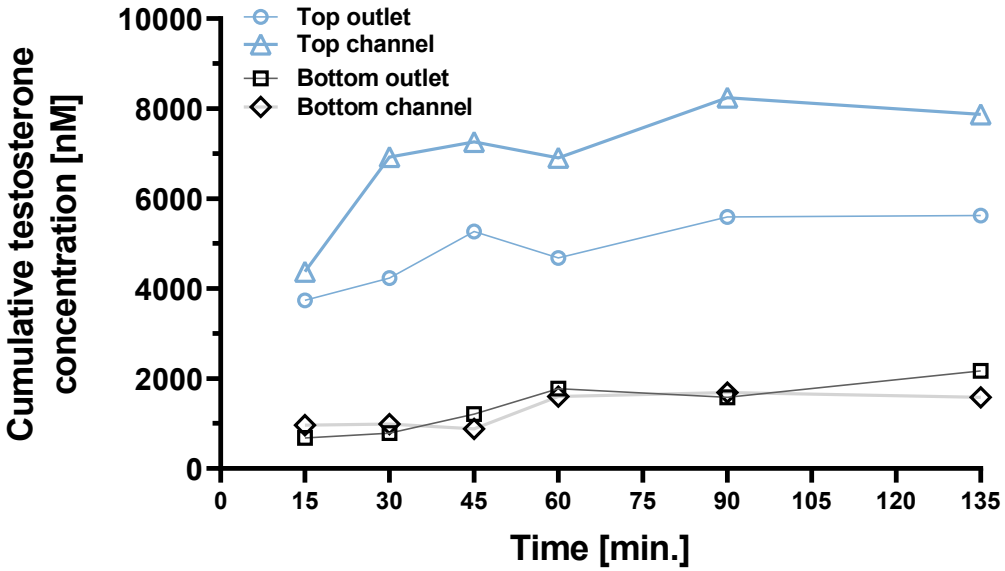
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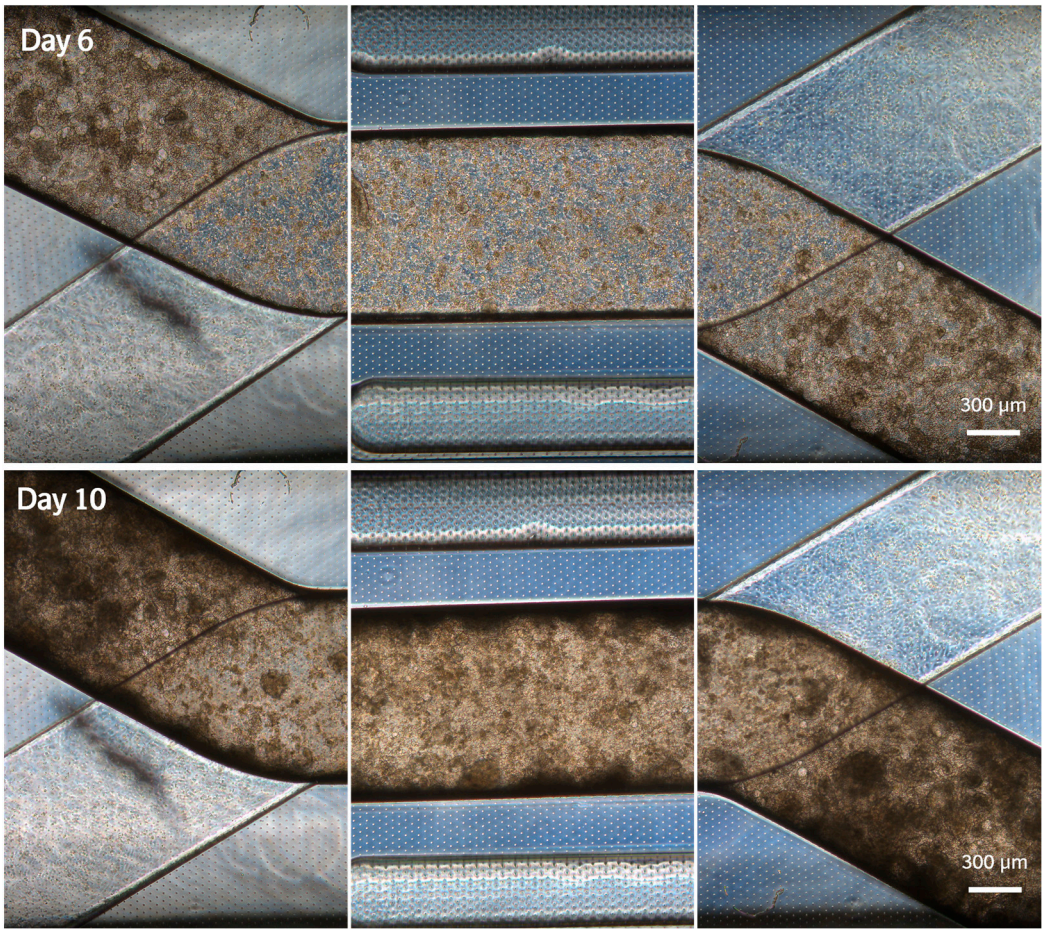
Addressing the ADME Challenges of Compound Loss in a PDMS-based Gut-On-Chip Microphysiological System

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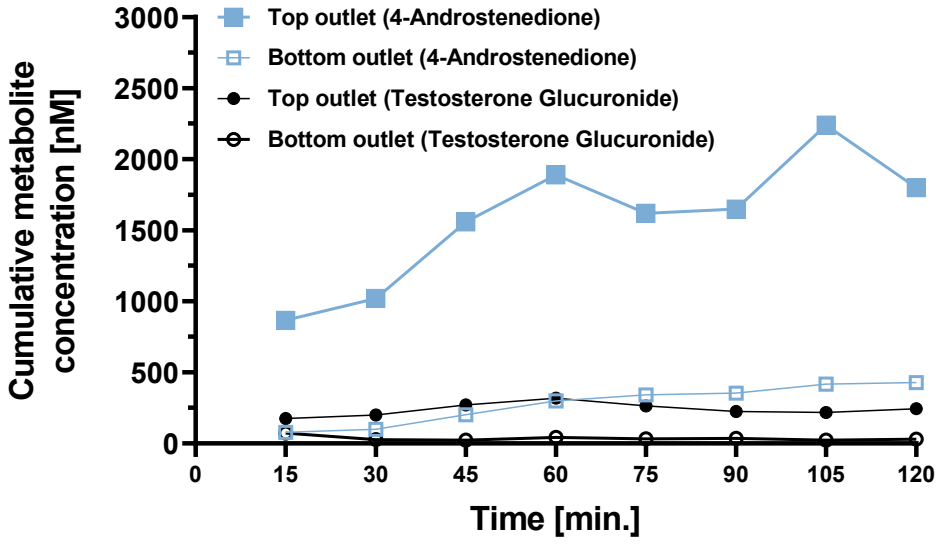
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Supplementary Figure S1. Concentration over time profiles of testosterone perfused into the top inlet at 200 µL/h at a concentration of 10 µM in an Emulate organ chip from the compound distribution kit.



Supplementary Figure S2. Microscopic photographs of Caco-2/HUVEC gut-on-chip on day 6 and day 10.



Supplementary Figure S3. Concentration over time profiles of testosterone metabolites in Caco-2/HUVEC gut-on-chips perfused with Testosterone into the top inlet at 200 µL/h at a concentration of 10 µM.

Supplementary Table S1. Compound loss of Testosterone metabolites in cell-free organ-chips.

	absorption after 1h [%]		
	Bottom channel	Top channel	**Combined**
Metabolite	mean	mean	mean
4-Androstenedione	70	65	**68**
6β-Hydroxytestosterone	0	0	**0**
Testosterone glucuronide	26	29	**28**

Supplementary Table S2. Inhibition of P-gp mediated Quinidine efflux in MDCK-MDR1 cells by Elacridar

Elacridar concentration (μM)	Quinidine efflux
0	32
0.2	3.9
1	1.7
5	0.7