

## Supplemental Information

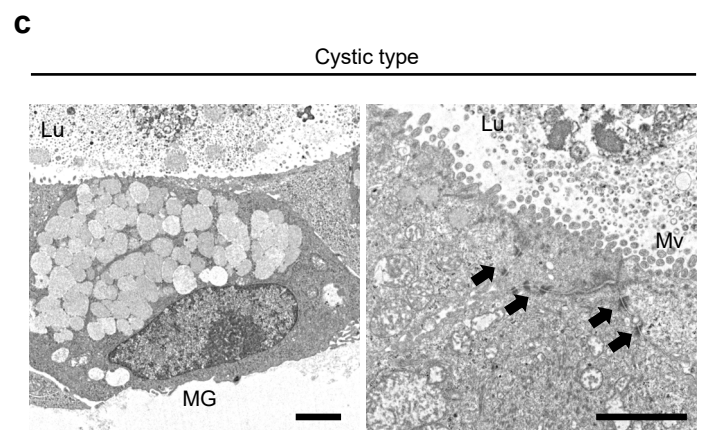
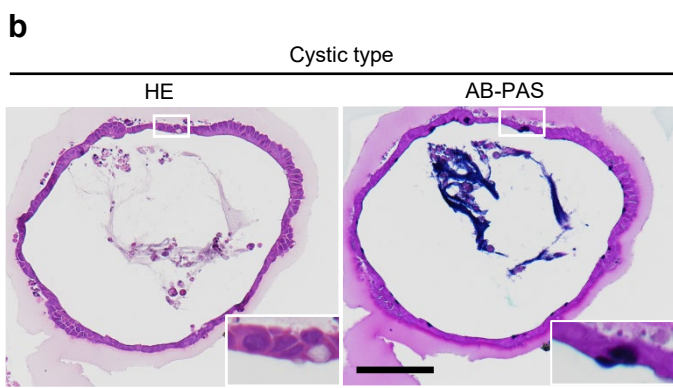
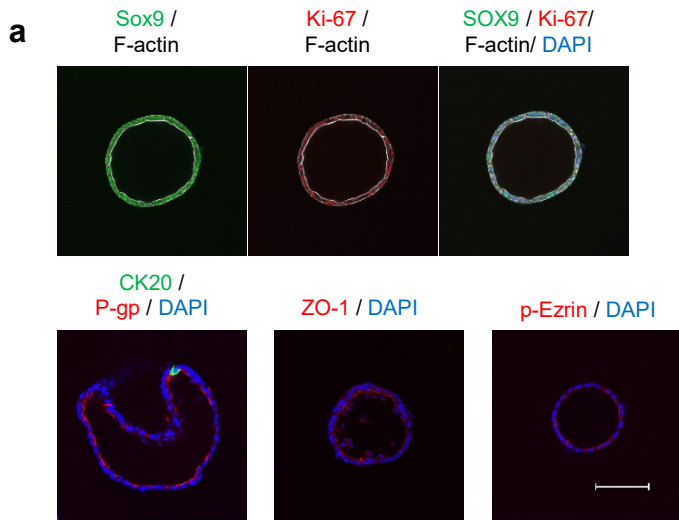
Development of rat duodenal monolayer model with effective barrier function from rat organoids for ADME assay

### Authors

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### Affiliations

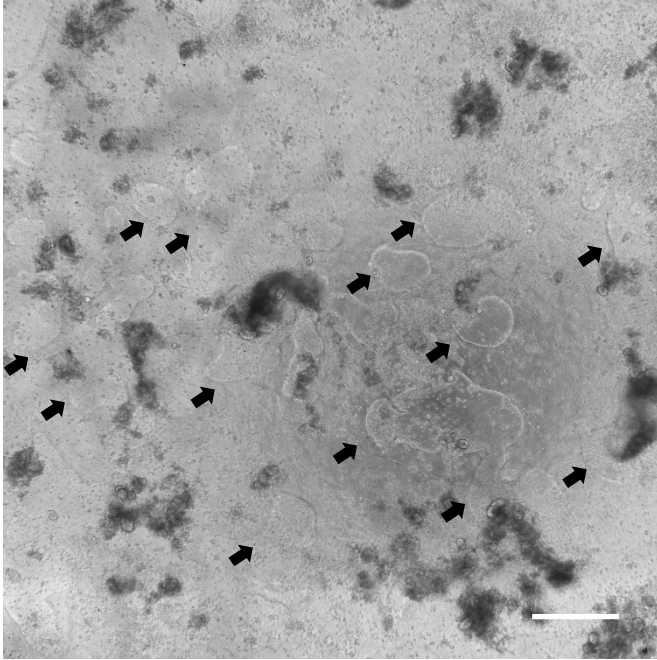
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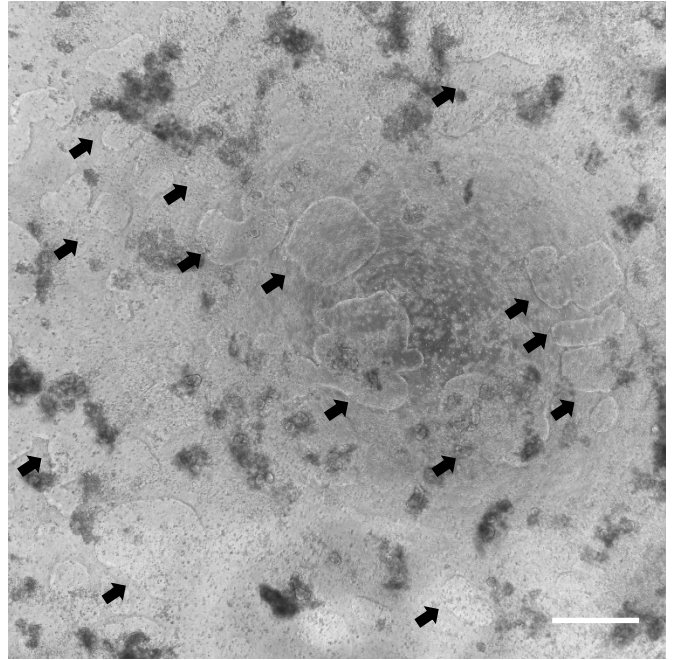
**Supplemental Figure S1.**

Characterization of rat duodenal organoid of cystic type. (a) Whole mount immunostaining of cystic type for Sox9 (green) and F-actin (white), Ki-67 (red) and F-actin (white), merge with DAPI (blue), CK20 (green) and P-gp (red) with DAPI (blue), ZO-1 (red) and DAPI (blue), phospho-Ezrin (p-Ezrin, red) and DAPI (blue). Scale bar = 100  $\mu$ m (b) Day 4 organoids sections were stained with HE, AB-PAS. Scale bar = 100  $\mu$ m. (c) Transmission electron microscopy of organoids on day 4. Arrows, desmosomes; MG, Matrigel; Mv, microvilli; Lu, Lumen. Scale bar = 2.0  $\mu$ m.

Well 1



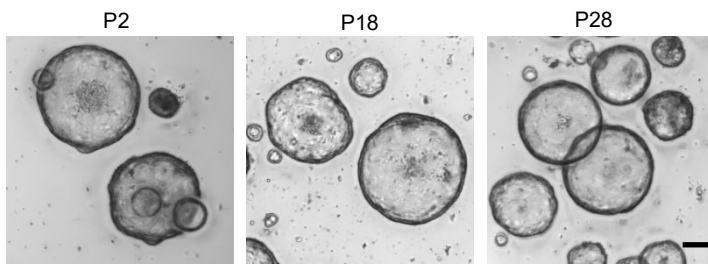
Well 2



**Supplemental Figure S2.**

Day 7 monolayer culture generated by conventional rat organoids. Arrows show the cell absence area.

Scale bar = 500  $\mu\text{m}$



**Supplemental Figure S3.**

Representative images of long-term cultured cyst-enriched organoids.

Scale bar = 100  $\mu$ m

**Supplemental Table S1.** Primers used for quantitative RT-PCR analysis

Gene	Forward primer	Reverse primer
<i>Si</i>	TGTTCCCTAAGGCTCGATGGTTTG	TTAGATGCGTGTTCCGTGCTG
<i>Abcb1a</i>	AGATCGTGAAGGCAGCCAAG	AGAAGTAAGATGTGAGGCTGTCTGA
<i>Abcb1b</i>	TGACTCGGGAGCAGAAGTTTGA	GGCGAAGGTGATCCCAAAGA
<i>Abcc2</i>	TGAGCACCAGCAGCGATTTTC	GAAGACGACCAAGTTTCCAACCA
<i>Cyp1a1</i>	GTCCCGGATGTGGCCCTTCTCAAA	TAACTCTTCCCTGGATGCCTTCAA
<i>Cyp3a9</i>	TTGTACGATGGTCGACAGCC	CCACTGGACCAAAGTTCCGT
<i>Act-b</i>	GGAGATTACTGCCCTGGCTCCTA	GACTCATCGTACTCCTGCTTGCTG