Electronic Supplementary Material (ESI) for Food & Function.
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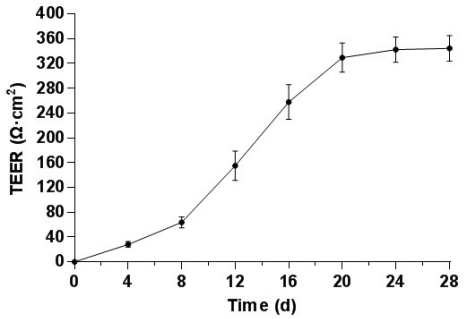
Supplement Table 1 The transepithelial electrical resistance (TEER) values ($\Omega \bullet cm^2$) before and after transport experiments (Mean ± SD, n = 3)

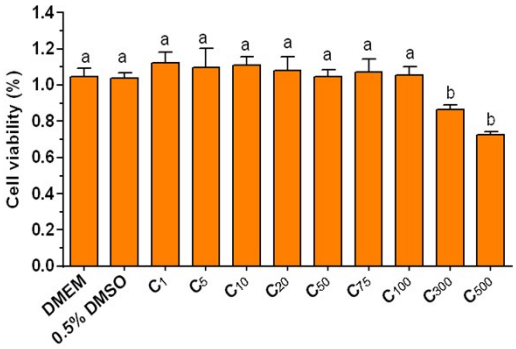
Group	AP→BL		BL→AP	
	Before	After	Before	After
7,8-DHF (pH=7.4)	369.8±12.3	354.3±13.6	345.6±16.3	334.5±15.3
7,8-DHF (pH=6.0)	354.3±12.6	350.2±16.3	342.3±34.1	339.6±23.6
7,8-DHF (pH=6.7)	350.3±16.1	342.6±11.2	326.1±14.9	308.6±11.2
7,8-DHF (37 ℃)	364.2±5.60	354.3±18.9	332.1±11.8	326.3±10.3
7,8-DHF (4 ℃)	326.9±15.8	325.3±16.8	336.2±15.2	335.4±14.9
7,8-DHF+ NaN_3	385.6±28.9	316.6±25.6	356.3±15.6	316.9±21.3
7,8-DHF+ NaN_3+2-DOG	402.3±14.3	326.3±18.9	356.9±14.7	316.4±20.1
7,8-DHF+ Verapamil	336.5±12.8	303.2±11.9	345.3±21.6	311.8±14.9
7,8-DHF+ MK 571	335.9±23.5	321.8±21.4	347.2±17.9	340.7±14.6
7,8-DHF+ Probenecid	315.6±12.6	302.6±10.8	371.5±41.2	352.8±33.9
7,8-DHF+ Lesinurad	354.7±25.7	347.9±21.7	423.6±38.1	387.5±41.2
7,8-DHF+ $ZnSO_4$	368.3±26.6	357.9±24.3	367.9±42.7	346.8±33.9
7,8-DHF+ Rifampicin	389.3±53.6	362.1±43.1	400.3±21.7	374.9±18.7
7,8-DHF+ Quinidine	313.5±11.4	304.5±10.3	326.8±11.6	314.2±17.8
7,8-DHF+ Levoflaxacin	326.8±14.8	323.8±12.4	345.7±16.3	340.8±12.7
7,8-DHF+ Cimetidine	362.1±26.9	360.4±25.6	326.7±21.8	323.8±18.8
7,8-DHF+ Phloretin	351.9±42.3	342.6±33.9	328.7±14.9	324.8±15.7
7,8-DHF+Phloridzin	350.1±11.4	335.2±8.60	387.9±26.9	374.2±18.7

Supplement Table 2 Percentage recovery of 7,8-DHF at the different incubation time in HBSS and Caco-2 cells with or without inhibits (Mean ± SD, n = 3)

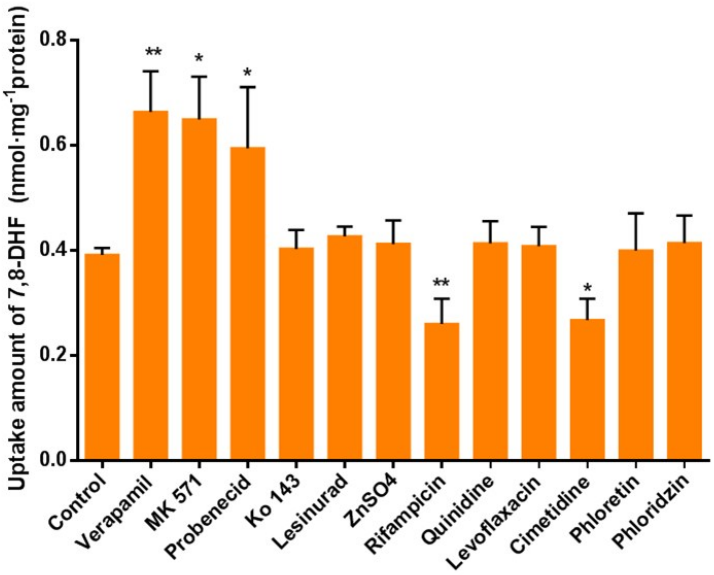
Group	Recovery of 7,8-DHF (%)			
	60 min	120 min	180 min	240 min
HBSS	99.51±2.35	98.43±2.16	97.94±1.47	96.56±1.74
HBSS (Caco-2)	98.92±1.63	97.83±1.54	97.41±3.26	96.21±3.31
HBSS (Caco-2)+Verapamil	99.21±1.25	98.41±0.39	97.76±1.44	96.44±2.01
HBSS (Caco-2)+MK 571	99.63±3.01	98.56±3.14	97.66±1.69	96.59±3.04
HBSS (Caco-2)+Probenecid	98.72±1.26	97.89±1.45	97.86±1.45	96.50±1.63
HBSS (Caco-2)+Ko 143	99.03±2.69	98.49±2.63	98.01±4.56	96.55±0.96
HBSS (Caco-2)+Lesinurad	99.40±3.05	99.03±3.16	98.52±4.01	97.01±3.63
HBSS (Caco-2)+$ZnSO_4$	98.78±2.78	98.07±1.23	97.98±2.74	96.44±1.74
HBSS (Caco-2)+Rifampicin	99.45±1.69	99.23±1.41	98.41±1.74	96.89±2.59
HBSS (Caco-2)+Quinidine	98.46±1.74	98.03±3.61	97.55±2.86	96.32±0.29
HBSS (Caco-2)+Levoflaxacin	99.32±2.34	98.33±0.34	97.82±1.48	96.44±2.41
HBSS (Caco-2)+Cimetidine	98.70±2.30	97.56±1.75	97.58±3.04	96.31±3.01
HBSS (Caco-2)+Phloretin	98.63±2.01	97.41±2.69	96.97±2.14	96.03±1.06
HBSS (Caco-2)+Phloridzin	99.26±2.67	98.56±3.06	97.86±2.31	97.03±3.33



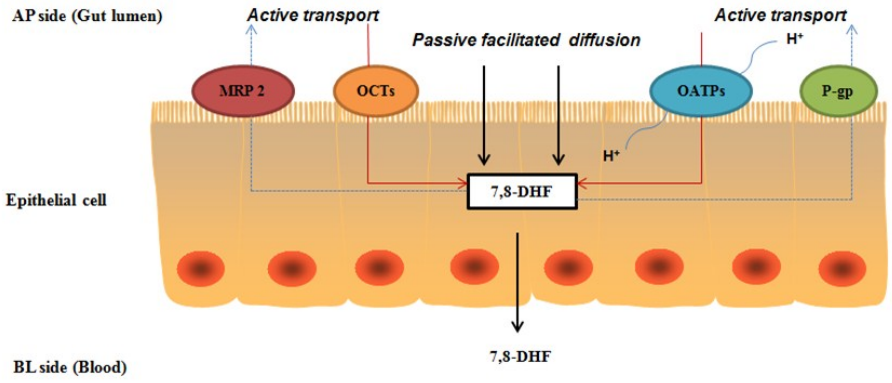
Supplement Fig.1 TEER value of the Caco-2 cell monolayers during culture. Data were shown as mean±SD (n=12 per group)



Supplement Fig.2 Cytotoxicity of 7,8-DHF on Caco-2 cells as determined using the CCK-8 assay. Data were shown as mean±SD (n=6 per group), graph bars with different letters on top correspond to statistically significant results ($p < 0.05$) based on one-way ANOVA analysis followed by Tukey's honest significant difference post hoc tests.



Supplement Fig.3 ptake amount of 7,8-DHF in the Caco-2 cells at the end of transport time with various inhibitors (nmol • mg^{-1} protein). *$p < 0.05$, **$p < 0.01$, vs Control, the significant differences were analysed by unpaired two-tailed Student's *t* test.



Supplement Fig.4 Possible routes for 7,8-DHF transport across Caco-2 cell monolayers.