

Supplemental Material: Annu.Rev.Pharmacol.Toxicol.2005. 45:689-723
doi: 10.1146/annurev.pharmtox.44.101802.121444

Table 2: Pharmacokinetic parameters of therapeutic drugs that interact with organic anion transporting polypeptides (OATPs) and their possibilities to cause drug-drug interactions

	Bioavailability	CL _{tot} [mL·min ⁻¹ ·kg ⁻¹]	Urinary excretion [% of dose]	Protein unbound fraction [%]	C _{max} [mg·L ⁻¹]	C _{max} ,in [μM]	C _{max} ,in [mg·L ⁻¹]	C _{max} ,u [μM]	C _{max} ,u [mg·L ⁻¹]	C _{u,max} ,in [μM]	C _{u,max} ,in [mg·L ⁻¹]	Transporter	K _i or K _m [μM]	Substrate	R [%]	R' [%]	Reference		
HMG-CoA reductase inhibitors																			
Atorvastatin	0.12	29	2	2	0.0149	0.02667	1.37	2.46	0.0003	0.0005	0.027	0.049	20 mg po	Human OATP-C Rat Oatp1	N.D. N.D.	Pravastatin Pravastatin, TC		55 55	
Cerivastatin	0.6			0.9										Human OATP-C Rat Oatp1 Rat Oatp2	N.D. N.D. N.D.	Pravastatin, TC E ₂ 17βG Digoxin		62 122 122	
Lovastatin	0.05	4.3	10	5	0.041	0.101	0.373	0.921	0.0021	0.0051	0.019	0.046	80 mg po	Human OATP-A Human OATP-C	N.D. N.D.	Fexofenadine Pravastatin, TC		181 55	
Pravastatin	0.18	13.5	47	57	0.000038	0.000085	0.369	0.826	0.00002	0.00005	0.21	0.471	20 mg po	Human OATP-C Rat Oatp1 Rat Oatp1 Rat Oatp2 Rat Oatp2	33.7 30 N.D. 37.5 N.D.	* * E ₂ 17βG * TC, digoxin	100 100 100 99.0 99.0	55, 56 55, 56 122 185 55, 122	
Immunosuppressant																			
Cyclosporin A	0.28	5.7	1	7	1.33	1.11	10.2	8.52	0.0933	0.0766	0.717	0.596	344 mg po	Human OATP-C Rat Oatp1 Rat Oatp2	0.238 N.D. N.D.	Cerivastatin E ₂ 17βG Digoxin	75.2 28.6	62 122 122	
Corticosteroids																			
Dexamethasone	0.6													Human OATP-A Rat Oatp1 Rat Oatp1	N.D. N.D. N.D.	DHEAS Ouabain Ouabain		186 187 187	
Prednisolone	0.8	3.6	3	25	0.061	0.225	2.01	5.64	0.0203	0.0562	0.507	1.41	30 mg po	Rat Oatp1 Rat Oat-k2	N.D. N.D.	TC		129	
Cardiac glycosides																			
Digoxin	0.7	2.09	60	75	0.0014	0.00179	0.0167	0.021	0.0011	0.0013	0.012	0.016	0.3 mg po	Human OATP8 Rat Oatp2 Rat Oatp2 Rat Oatp2	N.D. 0.037 0.58 0.24-1.07	* E ₂ 17βG TC *	97.1 100 99.0	69.9 97.1 93.5	65 188 189 60, 125, 189
ACE inhibitors																			
Enalapril	0.41	4.9	88	50	0.000069	0.00018	0.286	0.759	0.00003	0.00009	0.011	0.011	10 mg po	Rat Oatp1	252	*	100	100	63
Temocapril			35	7	0.000175	0.000341			0.000012	0.000024			5 mg temocapril po	Rat Oatp1	46.7	*			
Sulphonylureas																			
Glibenclamide			23		0.000082	0.000166	0.0751	0.152					2.5 mg po	Rat Oatp1 Rat Oatp2	N.D. N.D.	E ₂ 17βG Digoxin		122 122	
Tolbutamide	0.1	0.22	0.1	9	53	196	56.4	209	4.77	17.6	5.08	18.7	500 mg po	Rat Oatp1 Rat Oatp2	N.D. N.D.	E ₂ 17βG Digoxin		122 122	
NSAIDs																			
Ibuprofen	0.8	0.75	1	1	61.1	296	106	514	0.611	2.96	1.06	5.14	800 mg po	Rat Oatp1 Rat Oatp2	126 2430	E ₂ 17βG Digoxin	98.0 100	96.5 100	122 122
Indomethacin	98	1.4	15	10	2.4	6.71	5.79	16.2	0.24	0.671	0.579	1.62	50 mg po	Rat Oatp1 Rat Oatp2 Rat Oat-k1 Rat Oat-k2	N.D. N.D. 1000 N.D.	E ₂ 17βG Digoxin MTX TC	100	-	122 127 129
Ketoprofen	0.92	1.6	65	5	4.8	18.9	8	31.3	0.24	0.944	0.4	1.57	50 mg po	Rat Oatp1 Rat Oatp2 Rat Oat-k1	N.D. N.D. 1900	E ₂ 17βG Digoxin MTX	100	100	122 122 128
Naproxen	0.99	0.13	6	0.3	55	239	71.9	312	0.165	0.717	0.216	0.937	250 mg po	Rat Oatp1 Rat Oatp2 Rat Oat-k1	N.D. N.D. N.D.	E ₂ 17βG Digoxin MTX			122 122 128
Phenylbutazone														Rat Oatp1	N.D.	MTX		128	
antiviral drugs																			
Indinavir	0.65	9.9	12	39	6.02	9.8	53.4	87.1	2.35	3.82	20.9	33.9	700 mg po	Human OATP-A	N.D.	Fexofenadine		184	
Nelfinavir	0.8	12	2	2	3.2	4.82	95	143	0.064	0.0964	1.9	2.87	750 mg po	Human OATP-A	N.D.	Fexofenadine		184	
Ritonavir	0.6	1.2	3.5	2	11	15.3	36.8	51.1	0.22	0.305	0.736	1.02	600 mg po	Human OATP-A	N.D.	Fexofenadine		184	
Saquinavir	0.04	19	1	2	0.198	0.295	15.2	22.6	0.004	0.0059	0.304	0.453	600 mg po	Human OATP-A	N.D.	Fexofenadine		184	
Anticancer drugs																			
Methotrexate		2.1	81	54		99				53.5			500 mg/m2 loading -> 196 mg/m2/h infusion	Rat Oat-k1 Rat Oat-k2 Rat Oat-k2 Human OATP-C Human OATP8	1-2.1 N.D. 1.8 N.D. N.D.	* T3 * T3 *	1.8 3.3 -	-	126, 128 130 130 130 189 189
Uricosic drugs																			
Probenecid			11	17	22.5	78.8			3.83	13.4			500 mg po	Rat Oatp1 Rat Oatp2 Rat Oat-k2	74.4 72.9 N.D.	E ₂ 17βG E ₂ 17βG TC	84.7 84.7		188 188 129
Antiarrhythmic drugs																			

Quinidine	0.8	4.7	18	13	1.3	4.01	27.8	85.8	0.169	0.521	3.62	11.1	400 mg po	Rat Oatp1	9.27	E ₂ 17βG	94.3	44.4	122
														Rat Oatp2	120	Digoxin	100	90.9	122
Antimalarial drugs																			
Quinine	0.76	1.9	7	10	9.4	29	48.4	150	0.94	2.9	4.85	15	10mg□kg ⁻¹ po	Rat Oatp1	76.7	E ₂ 17βG			122
														Rat Oatp2	3.81	Digoxin			122
Antibiotics																			
Penicillin G			15	60										Human OATP-B	N.D.	*			54
														Human OATP-C	N.D.	*			54
Rifampicin	1	3.5	7	10	6.5	7.9	54.6	66.3	0.65	0.79	5.46	6.63	600 mg po	Human OATP-A	51	BSP	98.0	87.0	191
														Human OATP-C	17	BSP	95.2	69.4	191
														Human OATP-C	13	*	94.3	63.7	191
														Human OATP8	5	BSP	86.2	40.3	191
														Human OATP8	2.3	*	74.6	23.7	191
														Rat Oatp1	18.2	E ₂ 17βG	96.2	70.9	122
														Rat Oatp2	1.4	E ₂ 17βG	64.1	15.9	192
														Rat Oatp2	1.46	Digoxin	64.9	16.4	122
Rifamycin SV																			
														Human OATP-A	11	BSP			191
														Human OATP-B	3	BSP			191
														Human OATP-C	2	BSP			191
														Human OATP-C	N.D.	E ₂ 17βG			191
														Human OATP8	3	BSP			191
														Human OATP8	N.D.	E ₂ 17βG			191
														Rat Oatp1	6.6	E ₂ 17βG			192
														Rat Oatp2	7.3	E ₂ 17βG			192
Calcium channel blockers																			
Verapamil	0.22	15	3	10	0.272	0.598	6.03	13.3	0.0272	0.0598	0.603	1.33	120 mg po	Human OATP-A	N.D.	Fexofenadine			184
														Rat Oatp1	N.D.	E ₂ 17βG			122
														Rat Oatp2	N.D.	Digoxin			122