Supplementary Materials: Assessing the Functional Redundancy between P-gp and BCRP in Controlling the Brain Distribution and Biliary Excretion of Dual Substrates with PET Imaging in Mice

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Table S1. Area under the curve (AUC) values for blood, brain, liver and intestine time-activity curves for [^{11}C]tariquidar, [^{11}C]erlotinib and [^{11}C]elacridar in wild-type, *Abcb1a/b*$^{(-/-)}$, *Abcg2*$^{(-/-)}$ and *Abcb1a/b*$^{(-/-)}$*Abcg2*$^{(-/-)}$ mice.

Radiotracer	AUC (%ID/mL x min)	Wild-type	*Abcb1a/b*$^{(-/-)}$	*Abcg2*$^{(-/-)}$	*Abcb1a/b*$^{(-/-)}$*Abcg2*$^{(-/-)}$
[^{11}C]tariquidar	AUC_{blood}	403 ± 40	496 ± 51	641 ± 63	532 ± 36
	AUC_{brain}	45 ± 2	89 ± 3	55 ± 23	319 ± 58
	AUC_{liver}	1400 ± 67	1579 ± 67	1601 ± 77	1433 ± 92
	$AUC_{intestine}$	416 ± 48	507 ± 28	497 ± 33	393 ± 47
[^{11}C]erlotinib	AUC_{blood}	326 ± 30	328 ± 26	359 ± 29	317 ± 29
	AUC_{brain}	62 ± 2	82 ± 7	81 ± 5	154 ± 7
	AUC_{liver}	1300 ± 152	1199 ± 106	1485 ± 101	1375 ± 93
	$AUC_{intestine}$	1173 ± 121	1023 ± 127	811 ± 67	622 ± 66
[^{11}C]elacridar	AUC_{blood}	435 ± 72	455 ± 85	749 ± 203	469 ± 69
	AUC_{brain}	61 ± 13	99 ± 15	74 ± 7	243 ± 28
	AUC_{liver}	1388 ± 121	1351 ± 168	1672 ± 148	1362 ± 57
	$AUC_{intestine}$	390 ± 20	430 ± 35	584 ± 71	398 ± 28

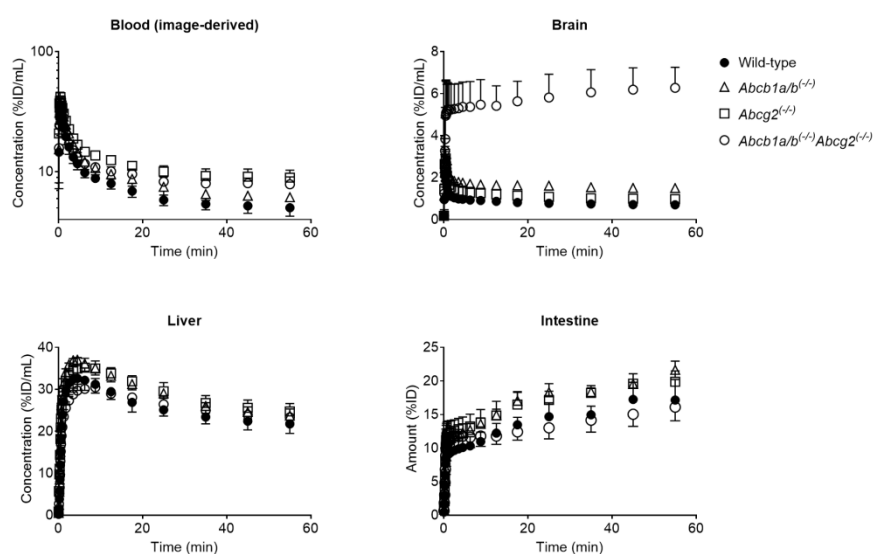AUC values are given as mean ± SD (*n* = 4–5 per group).

Figure S1. Mean time-activity curves (%ID/mL or %ID ± SD) of [11C]tariquidar in the blood (image-derived blood curve from the left ventricle of the heart), brain, liver and intestine in wild-type (•), *Abcb1a/b(−/−) (Δ)*, *Abcg2(−/−)* (□), and *Abcb1a/b(−/−)Abcg2(−/−)* (o) mice.
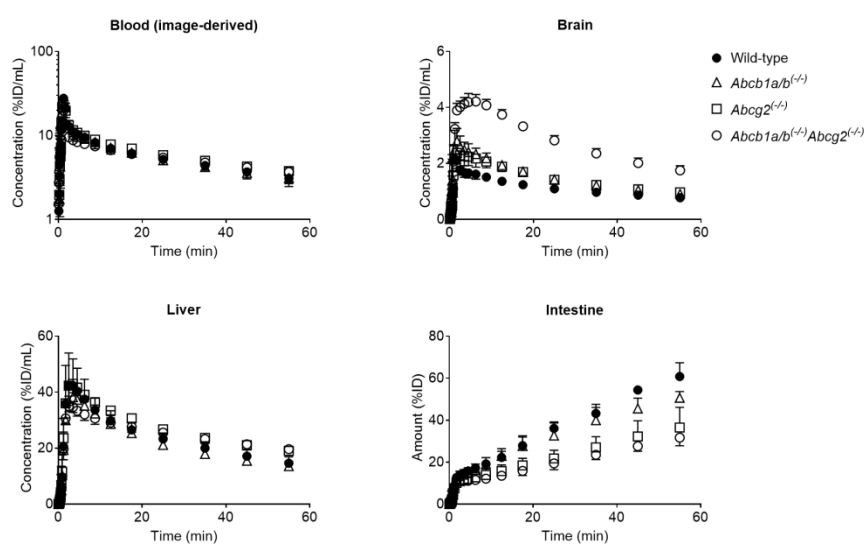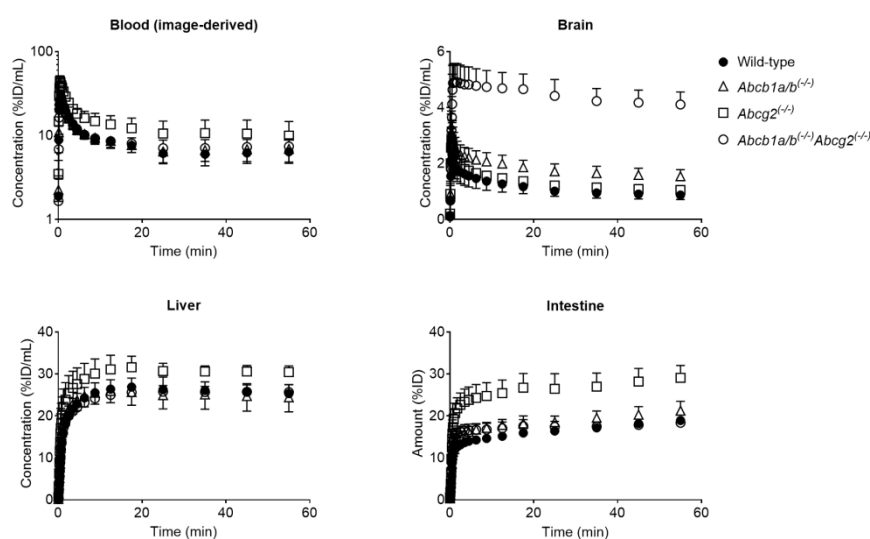

Figure S2. Mean time-activity curves (%ID/mL or %ID ± SD) of [11C]erlotinib in the blood (image-derived blood curve from the left ventricle of the heart), brain, liver and intestine in wild-type (•), *Abcb1a/b(−/−) (Δ)*, *Abcg2(−/−)* (□), and *Abcb1a/b(−/−)Abcg2(−/−)* (o) mice.

Figure S3. Mean time-activity curves (%ID/mL or %ID ± SD) of [11C]elacridar in the blood (image-derived blood curve from the left ventricle of the heart), brain, liver and intestine in wild-type (•), *Abcb1a/b(−/−)* (Δ), *Abcg2(−/−)* (□), and *Abcb1a/b(−/−)Abcg2(−/−)* (o) mice.
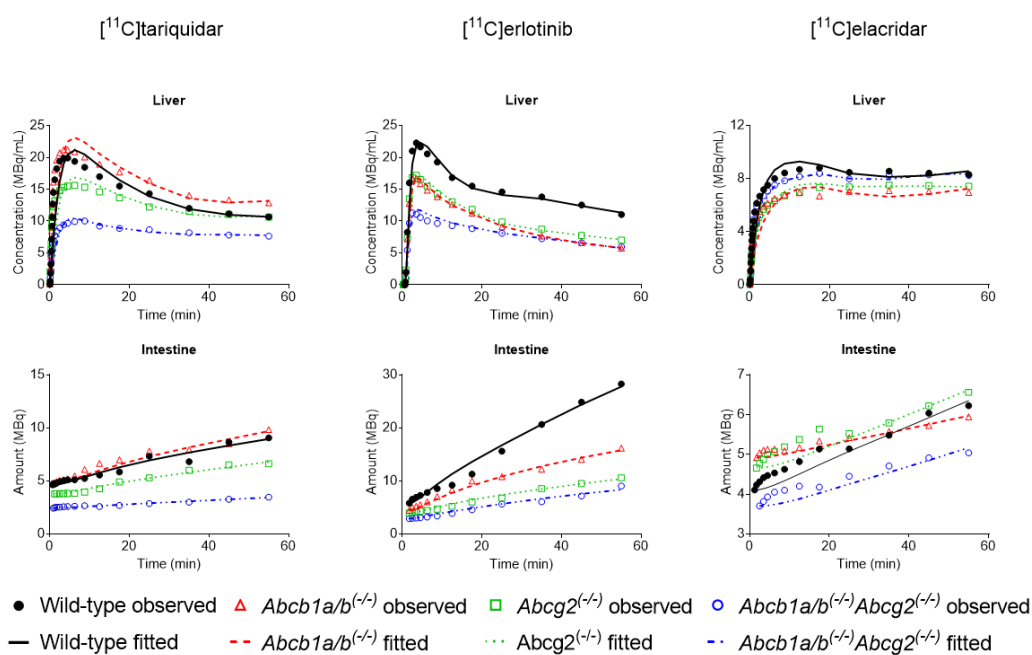

Figure S4. Observed and fitted time-activity curves (MBq/mL or MBq) of [11C]tariquidar, [11C]erlotinib and [11C]elacridar in the liver and intestine in one representative wild-type, *Abcb1a/b(−/−)*, *Abcg2(−/−)* and *Abcb1(−/−)Abcg2(−/−)* mouse.
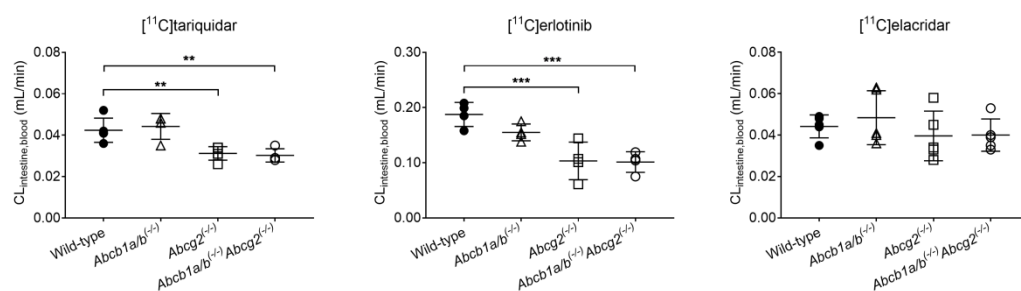
Figure S5. Intestinal clearance (CLintestine,blood) obtained by non-compartmental analysis for [11C]tariquidar, [11C]erlotinib and [11C]elacridar in wild-type, *Abcb1a/b(−/−), Abcg2(−/−)* and *Abcb1a/b(−/−)Abcg2(−/−)* mice. ** $p \leq 0.01$, *** $p \leq 0.001$, one-way ANOVA followed by a Dunnett's multiple comparison test against the reference group (wild-type).