

SUPPLEMENTARY MATERIAL

Table S1. gSNVs significantly associated ($p < 0.05$) with MMR achievement to imatinib first-line treatment in the exploratory cohort ($n=45$) and included in the analysis with the extended cohort.

RefSNP ID	Gene	Gene name	ADME classification	Consequence
rs1134095	<i>CYP11B1</i>	Cytochrome P450 family 11 subfamily B member 1	Phase I enzyme	3'UTR variant
rs11770903	<i>PON3</i>	Paraoxonase 3	Other	Upstream variant
rs13959	<i>ALDH1A1</i>	Aldehyde dehydrogenase 1 family member A1	Phase II enzyme	Synonymous variant
rs2501870	<i>NR1I3</i>	Nuclear receptor subfamily 1 group I member 3	Other	Synonymous variant
rs3787537	<i>SLCO4A1</i>	Solute carrier organic anion transporter family member 4A1	Transporter	Intronic variant
rs492338	<i>ABCG1</i>	ATP binding cassette subfamily G member 1	Transporter	Intronic variant
rs6783962	<i>CHST13</i>	Carbohydrate sulfotransferase 13	Phase II enzyme	Intronic variant
rs7662029	<i>UGT2B7</i>	UDP glucuronosyltransferase family 2 member B7	Phase II enzyme	Upstream variant
rs1062033	<i>CYP19A1</i>	Cytochrome P450 family 19 subfamily A member 1	Phase I enzyme	Intronic variant
rs10509681	<i>CYP2C8</i>	Cytochrome P450 family 2 subfamily C member 8	Phase I enzyme	Missense variant
rs1135840	<i>CYP2D6</i>	Cytochrome P450 family 2 subfamily D member 6	Phase I enzyme	Missense variant
rs11807	<i>GSTM5</i>	Glutathione S-transferase mu 5	Phase II enzyme	3'UTR variant
rs1402467	<i>SULT1C4</i>	Sulfotransferase family 1C member 4	Phase II enzyme	Missense variant
rs2762934	<i>CYP24A1</i>	Cytochrome P450 family 24 subfamily A member 1	Phase I enzyme	3'UTR variant
rs4148304	<i>UGT2A1</i>	UDP glucuronosyltransferase family 2 member A2	Phase II enzyme	Missense variant
rs7003319	<i>CYP11B1</i>	Cytochrome P450 family 11 subfamily B member 1	Phase I enzyme	3'UTR variant
rs4925	<i>GSTO1</i>	Glutathione S-transferase omega 1	Phase II enzyme	Missense variant
rs7668258	<i>UGT2B7</i>	UDP glucuronosyltransferase family 2 member B7	Phase II enzyme	Upstream variant
rs2274405	<i>ABCC4</i>	ATP binding cassette subfamily C member 4	Transporter	Synonymous variant
rs1138541	<i>SLCO5A1</i>	Solute carrier organic transporter family member 5A1	Transporter	3'UTR variant
rs1202283	<i>ABCB4</i>	ATP binding cassette subfamily B member 4	Transporter	Synonymous variant
rs1530031	<i>CHST10</i>	Carbohydrate sulfotransferase 10	Phase II enzyme	3'UTR variant
rs2274406	<i>ABCC4</i>	ATP binding cassette subfamily C member 4	Transporter	Missense variant
rs28360521	<i>CYP2D6</i>	Cytochrome P450 family 2 subfamily D member 6	Phase I enzyme	Intronic variant
rs4543	<i>CYP11B2</i>	Cytochrome P450 family 11 subfamily B member 2	Phase I enzyme	Synonymous variant
rs4934027	<i>MAT1A</i>	Methionine adenosyltransferase 1A	Other	Intronic variant
rs700519	<i>CYP19A1</i>	Cytochrome P450 family 19 subfamily A member 1	Phase I enzyme	Missense variant
rs8050894	<i>VKORC1</i>	Vitamin K epoxide reductase complex subunit 1	Other	Intronic variant
rs1065852	<i>CYP2D6</i>	Cytochrome P450 family 2 subfamily D member 6	Phase I enzyme	Missense variant
rs11568591	<i>ABCC3</i>	ATP binding cassette subfamily C member 3	Transporter	Missense variant
rs1229984	<i>ADH1B</i>	Alcohol dehydrogenase 1B (class I), beta polypeptide	Phase II enzyme	Missense variant
rs1604741	<i>SULT1B1</i>	Sulfotransferase family 1B member 1	Phase II enzyme	Intronic variant
rs2276299	<i>SLC22A8</i>	Solute carrier family 22 member 8	Transporter	Synonymous variant
rs2884737	<i>VKORC1</i>	Vitamin K epoxide reductase complex subunit 1	Other	Intronic variant
rs495714	<i>ABCB11</i>	ATP binding cassette subfamily B member 11	Transporter	Intronic variant
rs2242046	<i>SLC28A1</i>	Solute carrier family 28 member 1	Transporter	Missense variant

rs1395	<i>SLC5A6</i>	Solute carrier family 5 member 6	Transporter	Missense variant
rs743616	<i>ARSA</i>	Arylsulfatase A	Other	Intronic variant
rs11764079	<i>PON3</i>	Paraoxonase 3	Other	Upstream variant
rs742350	<i>FMO1</i>	Flavin containing dimethylaniline monooxygenase 1	Phase II enzyme	Synonymous variant
rs8192879	<i>CYP7A1</i>	Cytochrome P450 family 7 subfamily A member 1	Phase I enzyme	3'UTR variant
rs3100	<i>UGT2B15</i>	UDP glucuronosyltransferase family 2 member B15	Phase II enzyme	3'UTR variant
rs2292334	<i>SLC22A3</i>	Solute carrier family 22 member 3	Transporter	Synonymous variant
rs17685	<i>POR</i>	Cytochrome p450 oxidoreductase	Other	3'UTR variant
rs12960	<i>SPG7</i>	SPG7 matrix AAA peptidase subunit, paraplegin	Other	Missense variant
rs11572080	<i>CYP2C8</i>	Cytochrome P450 family 2 subfamily C member 8	Phase I enzyme	Missense variant
rs1080983	<i>CYP2D6</i>	Cytochrome P450 family 2 subfamily D member 6	Phase I enzyme	Upstream variant
rs628031	<i>SLC22A1</i>	Solute carrier family 22 member 1	Transporter	Missense variant
rs496550	<i>ABCB11</i>	ATP binding cassette subfamily B member 11	Transporter	3'UTR variant
rs895729	<i>CHST1</i>	Carbohydrate sulfotransferase 1	Phase II enzyme	Intronic variant
rs4646	<i>CYP19A1</i>	Cytochrome P450 family 19 subfamily A member 1	Phase I enzyme	3'UTR variant
rs316019	<i>SLC22A2</i>	Solute carrier family 22 member 2	Transporter	Missense variant
rs2297322	<i>SLC15A1</i>	Solute carrier family 15 member 1	Transporter	Missense variant
rs1801246	<i>ATP7B</i>	ATPase copper transporting beta	Transporter	Synonymous variant
rs1296954	<i>GSTM5</i>	Glutathione S-transferase mu 5	Phase II enzyme	5'UTR variant
rs11584174	<i>NR1I3</i>	Nuclear receptor subfamily 1 group I member 3	Other	Synonymous variant
rs1080985	<i>CYP2D6</i>	Cytochrome P450 family 2 subfamily D member 6	Phase I enzyme	Upstream variant
rs13226149	<i>PON3</i>	Paraoxonase 3	Other	Synonymous variant
rs9934438	<i>VKORC1</i>	Vitamin K epoxide reductase complex subunit 1	Other	Intronic variant
rs7438284	<i>UGT2B7</i>	UDP glucuronosyltransferase family 2 member B7	Phase II enzyme	Synonymous variant
rs497692	<i>ABCB11</i>	ATP binding cassette subfamily B member 11	Transporter	Synonymous variant
rs4679028	<i>SLC22A14</i>	Solute carrier family 22 member 14	Transporter	Intronic variant
rs324420	<i>FAAH</i>	Fatty acid amide hydrolase	Other	Missense variant
rs2359612	<i>VKORC1</i>	Vitamin K epoxide reductase complex subunit 1	Other	Intronic variant
rs212090	<i>ABCC1</i>	ATP binding cassette subfamily C member 1	Transporter	3'UTR variant
rs11731028	<i>SULT1B1</i>	Sulfotransferase family 1B member 1	Phase II enzyme	Intronic variant
rs1109407	<i>SLCO2B1</i>	Solute carrier organic transporter family member 2B1	Transporter	Synonymous variant
rs2242416	<i>SLC22A7</i>	Solute carrier family 22 member 7	Transporter	Downstream variant
rs7439366	<i>UGT2B7</i>	UDP glucuronosyltransferase family 2 member B7	Phase II enzyme	Missense variant
rs5303	<i>CYP11B1</i>	Cytochrome P450 family 11 subfamily B member 1	Phase I enzyme	3'UTR variant
rs4683739	<i>CHST2</i>	Carbohydrate sulfotransferase 2	Phase II enzyme	Upstream variant
rs3775770	<i>SULT1E1</i>	Sulfotransferase family 1E member 1	Phase II enzyme	Intronic variant
rs2479390	<i>GSTM5</i>	Glutathione S-transferase mu 5	Phase II enzyme	Intronic variant
rs1126692	<i>FMO1</i>	Flavin containing dimethylaniline monooxygenase 1	Phase II enzyme	Synonymous variant
rs750398	<i>CHST1</i>	Carbohydrate sulfotransferase 1	Phase II enzyme	Synonymous variant
rs4736312	<i>CYP11B1</i>	Cytochrome P450 family 11 subfamily B member 1	Phase I enzyme	3'UTR variant

Table S2. Cumulative incidences (median [95%CI]) of MMR achievement for each of the genotypes of the gSNVs statistically significant obtained in the analyses of the extended cohort ($n=137$). P -value is indicated for each gSNV and those statistically significant are in bold.

Gene	RefSNP ID	Genotype	Cumulative incidence (median [95%CI])	p
<i>ABCG1</i>	rs492338	T/T C/T C/C	58% [42% - 71%] 73% [62% - 81%] 83% [65% - 93%]	0.046
<i>ABCB11</i>	rs496550	G/G A/G A/A	62% [47% - 74%] 73% [61% - 81%] 86% [73% - 94%]	0.338
<i>ABCB11</i>	rs497692	G/G A/G A/A	62% [47% - 74%] 73% [61% - 81%] 86% [86% - 86%]	0.362
<i>ABCB11</i>	rs495714	G/G A/G A/A	81% [67% - 89%] 74% [63% - 83%] 62% [47% - 74%]	0.344
<i>CYP2D6</i>	rs1135840	C/C C/G G/G	77% [65% - 85%] 75% [61% - 85%] 52% [34% - 67%]	0.148
<i>CYP11B1</i>	rs7003319	C/C A/C A/A	81% [69% - 88%] 66% [54% - 76%] 60% [42% - 74%]	0.179
<i>CYP11B1</i>	rs7003319 (dominant)	C/C A/C- A/A	81% [69% - 88%] 64% [54% - 73%]	0.069
<i>MAT1A</i>	rs4934027	C/C C/T T/T	62% [52% - 70%] 86% [72% - 93%] 100% [100% - 100%]	0.011
<i>MAT1A</i>	rs4934027 (dominant)	C/C C/T-T/T	62% [52% - 70%] 88% [75% - 94%]	0.011
<i>SLC22A1</i>	rs628031	G/G A/G A/A	76% [64% - 85%] 73% [61% - 82%] 36% [11% - 63%]	0.119
<i>SLC22A1</i>	rs628031 (recessive)	G/G-A/G A/A	75% [67% - 81%] 36% [11% - 63%]	0.043
<i>CYP2D6</i>	rs1065852	C/C C/T T/T	69% [59% - 77%] 68% [52% - 80%] 100% [100% - 100%]	0.047
<i>CYP2D6</i>	rs1065852 (recessive)	C/C-C/T T/T	69% [60% - 76%] 100% [100% - 100%]	0.014
<i>UGT2A1</i>	rs4148304	G/G A/G A/A	72% [62% - 79%] 80% [69% - 88%] 20% [20% - 20%]	0.209
<i>UGT2A1</i>	rs4148304 (recessive)	G/G-A/G A/A	74% [66% - 80%] 20% [20% - 20%]	0.124