

**Table S1** The drug targets in Venn plot

Target variable	Number of targets	Target
Drug target	73	DCK, RRM1, TK2, CMPK1, NME1, CD96, HLA-DRB, HLA-DRA, CD4, ABCC10, CD37, SLC28A1, SLC29A2, SLC28A3, TYMP, CYP2C9, CES1, CDA, MTHFR, TYMS, UMPS, PPAT, TOP2A, UGT2B7, PLA2G4A, ABCC1, DPYD, UPP1, UPP2, CYP2A6, SERPINA7, SLC22A7, SLC29A1, ABCC3, ABCC4, ABCC5, NR1I2, CYP3A4, CYP3A5, CYP1A2, CYP1A1, CYP2D6, CYP2C8, CYP1B1, UGT1A1, EGFR, ORM1, ABCB1, SLCO2B1, CD2, CD52, PTPRC, ATM, CD27, CTLA-4, ITGAL, IL2RA, GSTT1, MT1A, MT2A, MPO, SOD1, GSTP1, GSTM1, NQO1, ALB, SLC22A2, SLC31A1, SLC22A3, ABCG2, ABCC2, ATP7B, and ATP7A
Drug target intersects with the disease	10	CD96, CD37, CD2, CD52, PTPRC, ATM, CD27, CTLA-4, ITGAL, and IL2RA
Drug target that did not intersect with the disease	63	DCK, RRM1, TK2, CMPK1, NME1, HLA-DRB, HLA-DRA, CD4, ABCC10, SLC28A1, SLC29A2, SLC28A3, TYMP, CYP2C9, CES1, CDA, MTHFR, TYMS, UMPS, PPAT, TOP2A, UGT2B7, PLA2G4A, ABCC1, DPYD, UPP1, UPP2, CYP2A6, SERPINA7, SLC22A7, SLC29A1, ABCC3, ABCC4, ABCC5, NR1I2, CYP3A4, CYP3A5, CYP1A2, CYP1A1, CYP2D6, CYP2C8, CYP1B1, UGT1A1, EGFR, ORM1, ABCB1, SLCO2B1, GSTT1, MT1A, MT2A, MPO, SOD1, GSTP1, GSTM1, NQO1, ALB, SLC22A2, SLC31A1, SLC22A3, ABCG2, ABCC2, ATP7B, and ATP7A.

**Table S2** The drug related targets collected

Drug	Targets
Clenoliximab	CD4
Apolizumab	HLA-DRB, HLA-DRA
Basiliximab	IL2RA
BI-836826	CD37
Efalizumab	ITGAL
Oxaliplatin	GSTT1, MT1A, MT2A, MPO, SOD1, GSTP1, GSTM1, SLC22A2, SLC31A1, SLC22A3, ABCG2, ABCC2, ATP7B, ATP7A
Tremelimumab	CTLA-4
Varlilumab	CD27
AZD1390	ATM
Alemtuzumab	CD52
Siplizumab	CD2
Erlotinib	NR1I2, EGFR, CYP3A4, CYP3A5, CYP1A2, CYP1A1
Fluorouracil	TYMS, DPYD, UPP1, UPP2, CYP2A6, CYP2C8, MTHFR, UMPS, PPAT, CYP1A2, TYMP, CYP2C9, ALB, SERPINA7, SLC22A7, SLC29A1, ABCG2, ABCC3, ABCC4, ABCC5.
Epirubicin	TOP2A, UGT2B7, PLA2G4A, ABCC1
Gemcitabine	TYMS, RRM1, CMPK1, TK2, CMPK1, NME1, CDA, DCK, ABCB1, ABCC10, SLC29A1, SLC28A1, SLC29A2, SLC28A3.
Capecitabine	TYMS, TYMP, CES1, CDA, CYP2C9, UPP1, UPP2, ALB