

Supplementary Table 1. Potential treatment options for UC analyzed by CMap.

pert_iname	moa	target_name	raw_cs	fdr_q_nlog10	norm_cs
vemurafenib	RAF inhibitor	BRAF CYP2C19 CYP3A4 CYP3A5 RAF1	-0.5193	15.6536	-1.8899
R-428	AXL kinase inhibitor	AXL	-0.5121	15.6536	-1.8637
UNC-0321	Histone lysine methyltransferase inhibitor	EHMT2	-0.5067	15.6536	-1.8441
RAF-265	RAF inhibitor VEGFR inhibitor	BRAF KDR KIT PDGFRB RAF1	-0.503	15.6536	-1.8306
BMS-536924	IGF-1 inhibitor	IGF1R INSR AKT1 CCNE1 CDK2 CYP3A4 ERBB2 KDR LCK MAPK1 MET PDGFRA PDGFRB	-0.4971	15.6536	-1.8092
glycitein	TNF inhibitor	TNF APP IL1B	-0.4953	15.6536	-1.8028
NVP-TAE226	Protein tyrosine kinase inhibitor	IGF1R PTK2	-0.4851	15.6536	-1.7656
lidoflazine	Calcium channel blocker	SCN1A SCN3A SLC29A1	-0.4812	15.6536	-1.7514
cortisone-acetate	Glucocorticoid receptor agonist	NR3C1	-0.4681	15.6536	-1.7036
regorafenib	FGFR inhibitor KIT inhibitor PDGFR inhibitor RAF inhibitor RET inhibitor VEGFR inhibitor	KDR KIT RET FLT1 FLT4 PDGFRA TEK BRAF ABL1 DDR2 FGFR1 FGFR2 FRK MAPK11 PDGFRB RAF1 CYP2B6 CYP2C19 CYP2C8 FGF2 EPHA2 NTRK1	-0.4676	15.6536	-1.7019

Supplementary Table 2. Molecular docking of three model genes and the top ten drugs.

Gene	Drug	free binding energy (kcal/mol)
S100A11	vemurafenib	-7.4
	R-428	-8.6
	UNC-0321	-6.3
	RAF-265	-8.5
	BMS-536924	-7.8
	glycitein	-6.5
	NVP-TAE226	-7.8
	lidoflazine	-6.8
	cortisone-acetate	-7
	regorafenib	-9.1
IFI16	vemurafenib	-7.3
	R-428	-9.9
	UNC-0321	-6.5
	RAF-265	-8.3
	BMS-536924	-7
	glycitein	-6.4
	NVP-TAE226	-7.6
	lidoflazine	-7.1
	cortisone-acetate	-7.4
	regorafenib	-7.6
HSDL2	vemurafenib	-9.7
	R-428	-12.4
	UNC-0321	-7
	RAF-265	-11.2
	BMS-536924	-10.1
	glycitein	-8.4
	NVP-TAE226	-9.3
	lidoflazine	-10.1
	cortisone-acetate	-9.8
	regorafenib	-9.9