

**Table SV.** Pearson correlation coefficient of the NCI-60 drug z-scores with gene expression and detailed information of the drugs.

Drug	Targeted genes	Correlation	P-value	Drug description	FDA status	Associated conditions
Nelarabine	MYB	0.586592	$8.43 \times 10^{-7}$	Nelarabine is an antineoplastic agent that is typically employed to treat acute T-cell lymphoblastic leukemia. Nelarabine is a purine nucleoside analog converted to its corresponding arabinosylguanine nucleotide triphosphate (araGTP), resulting in inhibition of DNA synthesis and cytotoxicity.	Approved, Investigational	Lymphoblastic lymphoma (precursor T-lymphoblastic lymphoma/leukemia) refractory, refractory acute lymphoblastic leukemia
	HES1	0.36046	0.004667			
	SLC11A2	0.305285	0.017696			
	HILPDA	0.304768	0.017899			
	YWHAЕ	0.276272	0.032618			
Tamoxifen	CD44	-0.4532	0.000277	Tamoxifen is a non-steroidal antiestrogen used to treat estrogen receptor-positive breast cancers as well as to prevent the incidence of breast cancer in high-risk populations.	Approved	Breast cancer, desmoid tumors, endometrial cancer, gynecomastia, invasive breast cancer, invasive breast, carcinoma, metastatic breast cancer, ovarian cancer, precocious puberty
	MYB	0.394692	0.001804			
	DBN1	-0.33686	0.008492			
	HILPDA	0.302482	0.018822			
Dolastatin 10	DBN1	-0.42089	0.000812	Dolastatin 10 has been used in trials studying the treatment of sarcoma, leukemia, lymphoma, liver cancer, and kidney cancer, among others.	Investigational	NA
	MYB	0.30043	0.019683			
	YWHAЕ	-0.27034	0.036699			
	HSPB1	-0.26259	0.042664			
	CD44	-0.26043	0.044462			
Nitrogen mustard	MYB	0.35644	0.005184	A vesicant and necrotizing irritant destructive to mucous membranes, mechlorethamine is an alkylating drug.	Approved, Investigational	Bronchogenic carcinoma, chronic lymphocytic leukemia, Hodgkin's disease, diffuse lymphoma , MF, polycythemia vera, stage I MF, malignant effusion
	HILPDA	0.285058	0.02727			
	CD44	-0.27682	0.032259			

	IFNG	0.260499	0.044408			
Perifosine	MYB	0.332973	0.009334	Perifosine is a novel alkylphospholipid with antiproliferative properties attributed to protein kinase B inhibition.	Investigational	NA
	HSPB1	-0.27363	0.034385			
	HILPDA	0.270237	0.036776			
	DBN1	-0.25891	0.045769			
Chelerythrine	MYB	0.656769	1.21x10 <sup>-8</sup>	-	-	-
	HSPB1	-0.3594	0.004799			
	HILPDA	0.322057	0.012093			
	SLC11A2	0.286525	0.026454			
SR16157	CD44	-0.44115	0.000419	-	-	-
	HILPDA	0.319575	0.012811			
	HSPB1	0.294701	0.022269			
	MYB	0.25906	0.045638			

FDA, Food and Drug Administration; MF, mycosis fungoides; NA, not available; -, no documentation is available about this drug.