

Table S7 Summary of hub genes regulating AML progression

hub gene	Official Full Name (HGNC)	Effects on AML Progression	PMID
SIRT1	Sirtuin 1	SIRT regulated by FLT3 kinase activity plays a major role in harboring activating mutations.	24855208
		Inhibition of SIRT1 expression or activity reduced the growth of FLT3-ITD AML LSCs.	25280219
NFE2L2	NFE2 Like BZIP Transcription Factor 2	High NFE2L2 expression can induce gene instability-dependent drug resistance in AML.	33414469
CDKN1A	Cyclin Dependent Kinase Inhibitor 1A	CDKN1A promotes G0-G1 cell-cycle arrest, and triggers apoptosis in AML cells.	29626127
CDKN2A	Cyclin Dependent Kinase Inhibitor 2A	Reduced expression of CDKN2A conferred inferior overall survival in human AML cohorts.	36400926
CDH1	Cadherin 1	Promoter hypermethylation of the CDH1 genes was closely associated with an internal tandem duplication (ITD) of the FLT3 gene.	16281935
STAT3	Signal Transducer And Activator Of Transcription 3	STAT pathways could be potential targets for reducing resistance developed in AML patients receiving FLT3 inhibitors.	19144991
ATG7	Autophagy Related 7	The key autophagy genes Atg5 and Atg7 reversed the FLT3 degradation to regulate the progression of FLT3-ITD mutated AML.	32284743
TFRC	Transferrin Receptor	TFRC/Fe ²⁺ pathway exhibits potent anti-AML activity.	36368726
SQSTM1	Sequestosome 1	p62/SQSTM1 delivered FLT3-ITD proteins to the lysosome for subsequent degradation which may affect FLT3-ITD AML progression.	32284743

CD44	CD44 Molecule (Indian Blood Group)	CD44 plays a major role in AML patients harboring FLT3 mutations.	36163632
GSK3B	Glycogen Synthase Kinase 3 Beta	Phosphorylation of ERK and GSK3B regulated high-risk AML patients with FLT3 wildtype.	35857899
G6PD	Glucose-6-Phosphate Dehydrogenase	Inactivating ATM or its downstream effector G6PD sensitizes AML cells to FLT3 inhibitor-induced apoptosis.	27791036