

## Welcome to AMLdb: A database for Acute Myeloid Leukemia!

Acute myeloid leukemia (AML) is a rare cancer usually detected at an advanced stage. It's a disease of immature blood cells. Instead of developing into mature blood cells with finite lifespan, cells with compromised DNA or compromised regulation of DNA continue to divide. Eventually, these diseased cells take over and cause devastating effects on the body. Most patients survive just a few weeks or months after diagnosis. Understanding how AML occurs is difficult because the disease develops silently for many years before patients suddenly have severe symptoms. Therefore, studying AML is challenging.

Taking these challenges into account, we developed AMLdb as a one-stop resource for anyone seeking information on AML. Our database provides comprehensive information on transcriptional and epigenetic dynamics in AML with special emphasis on mutations and drug sensitivity that can help to understand the etiology of the disease, identify and validate biomarkers, classify patients and predict personalized treatment regimens and outcomes. The data has been collected and curated manually from literature as well as repositories and databases like GEO, DepMap, cBioPortal, GDSC and COSMIC.







Select any of the provided options and click on to search

Table rela wo				ed to the se Ild appear	arch	Table	e can be	downloa	ded by c	licking on the	download	button		
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	GSE ID	Pubmed ID	Platform	Platform		Samples Techniques No of genes	No of probes for data pre- processing	Source of samples	Values of matrix	Expression	Download			
	GSE199452	35618837	Illumina HiSeq 2000 (Homo sapiens)		111	Illumina	52115	NA	NA	Mononuclear cells	TPM	profiling	4	
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	GSE86506	28123069	Illumina HiSeq 2000 (H			Illumina	50919	NA	NA	AML Blast	TPM	Expression profiling	U	
	GSE84359	28516957	Illumina HiSeq 2500 (Homo sapiens)		16	Illumina	22347	NA	NA	Bone marrow and blood	ТРМ	Expression profiling	4	
	GSE71800	27780967	Illumina HiSer 2000 (Homo saniens)		18	Illumina	21865	NA	NA	Cord blood/bone	ТРМ	Expression		

Click here to go the GEO website for the particular GSEID Click here to go the PubMed page for literature

Download the final matrix of the GSEID here Click the second option "Profiling Technique" to view the proportion of the datasets from different platforms like Affymetrix, Illumina and Agilent

<b>EAMLdb</b>								
Acute Myeloid Leukemia Database HOME	DATASET -		ALYSIS <del>-</del>	BIOMARKERS	DOWNLOAD	HELP	CREATORS	
Welcome to AMLdb: A database for	GEO data:		l Leuke	mia!				
Acute myeloid leukemia (AML) is a rare cancer usually detected at an advanced stage. It's a disease of im compromised DNA or compromised regulation of DNA continue to divide. Eventually, these diseased cells		ue eens:	ad of developing into mature blood cells with finite lifespan, cells with					
months after diagnosis. Understanding how AML occurs is difficult because the disease develops silently challenging.	DepMap	fap <b>patient</b>		atients suddenly have severe symptoms. Therefore, studying AML is				
Taking these challenges into account, we developed AMLdb as a one-stop resource for anyone seeking in epigenetic dynamics in AML with special emphasis on mutations and drug sensitivity that can help to under personalized treatment regimens and outcomes. The data has been collected and curated manually from			database provides comprehensive information on transcriptional and disease, identify and validate biomarkers, classify patients and predict positories and databases like CEO. DepMap. BioPostal, CDSC and					
COSMIC.	Drug Search		positories and databases like GEO, DepMap, CBIOPOR			nororial, C	n, GDSC and	

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Acute Myeloid Leukemia Database

HOME DATASET - ANALYSIS - BIOMARKERS DOWNLOAD HELP CREATORS

## **Profiling Techniques**

Various profiling techniques have been employed to decipher the events that leads to the progression of a normal tissue into a cancerous one. Here individual datasets from GEO portal, belonging to different platforms were collected and curated manually to study the expression of genes. User can click on to any of the below provided links to access the data associated with the respective platform. For detailed assistance visit the HELP section!





Click here to view the bar graph		This	table showing gene e cell lines would a	across the AML eristics	ML Download the table here			
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Acute Myeloid	l Leukemia Database			HOME DATA	ASET - ANALYSIS	- BIOMARKERS	DOWNLOAD HELP	CREATORS
				Your search r	results:			
The following table shows the dependency scores of gene CSF3 in AML cell lines: Download table here 🖽								
Click to view the	Plot							
DepMap ID	ACH-000004	ACH-000005	ACH-000045	ACH-000113	ACH-000	ACH-000168	8 ACH-000195	A
Cell line	HEL	HEL9217	MV411	OCIAML2	THP	NOMO1	SET2	
Sample collection site	haematopoietic_and_lymphoid_tissue	bone_marrow	haematopoietic_and_lymphoid_tissue	haematopoietic_and_lymphoid_	tissue haematopoietic_and_	lymphoid_tissuebone_marrov	whaematopoietic_and_lymphoid_tissu	ehaematopoieti
Primary/Metastasis	NA	NA	Primary	Primary	Prima	ry Primary	NA	
Lineage	blood	blood	blood	blood	blood	l blood	blood	
Sex	Male	Male	Male	Male	Male	Female	Female	
Age	30	30	10	65	1	31	71	
CSF3	-0.1496834	-0.4235607	-0.3548392	-0.2998907	-0.3131	698 -0.4168453	-0.2995105	-
4								

Scroll to see the entire table





Acute Myeloid Leukemia Database	НОМЕ	DATASET - AN	ALYSIS - BIOMARKERS DOWNLOAD HELP CREATORS					
Welcon	ne to AMLdb: A database fo	<u>GEO data:</u> Query Search	l Leukemia!					
Acute myeloid leukemia (AML) is a rare cancer usually detect compromised DNA or compromised regulation of DNA contin months after diagnosis. Understanding how AML occurs is d challenging. Taking these challenges into account, we developed AMLdb a epigenetic dynamics in AML with special emphasis on mutatio personalized treatment regimens and outcomes. The data ha COSMIC.	ted at an advanced stage. It's a disease of im nue to divide. Eventually, these diseased cells difficult because the disease develops silently as a one-stop resource for anyone seeking inf ons and drug sensitivity that can help to under as been collected and curated manually from	Profiling Technique CRISPR-Cas9 screens: DepMap Project Achilles GDSC data: Drug Search CASA Screenses CASA Screenses	ad of developing into mature blood cells with finite lifespan, cells with astating effects on the body. Most patients survive just a few weeks of patients suddenly have severe symptoms. Therefore, studying AML database provides comprehensive information on transcriptional an disease, identify and validate biomarkers, classify patients and predi positories and databases like GEO, DepMap, cBioPortal, GDSC ar					
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Acute Myeloid Leukemia Database	HOME DATASET - ANALYS	SIS - BIOMARKER	RS DOWNLOAD HELP CREATORS					
Keyword search for Drugs against AML cell lines								
is page is designed to retrieve information on the different drugs used against AML cell lines. User can browse these information using the options provided below. For detailed assistance visit the HELP section!								

|--|

Click here to visit PubChem website for the drug



Upon clicking plot option the bar graph of logIC50 v/s Cell lines appears



Analysis section provides you with the following options

<b>AMLdb</b>	
Acute Myeloid Leukemia Database HOME DATASET -	ANALYSIS - BIOMARKERS DOWNLOAD HELP CREATORS
Welcome to AMLdb: A database for Acute My	PROFILING: Expression
Acute myeloid leukemia (AML) is a rare cancer usually detected at an advanced stage. It's a disease of immature blood cel compromised DNA or compromised regulation of DNA continue to divide. Eventually, these diseased cells take over and ca months after diagnosis. Understanding how AML occurs is difficult because the disease develops silently for many years challenging.	MethylationDRUG SENSITIVITYMutational analysisinto mature blood cells with finite lifespan, cells with on the body. Most patients survive just a few weeks or y have severe symptoms. Therefore, studying AML is
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COSMIC.

\*Same for methylation profiling data



## The search results will give you the Box-Whisker plots showing mean expression values of the gene



0.1

0 GSET8963

GSE80508

 $50^{8}_{\text{GSE}^{89176}_{\text{GSE}^{62298}_{\text{GSE}^{62409}_{\text{GSE}^{6409}_{\text{GSE}^{64076}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^{6409}_{\text{GSE}^$ 

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personalized treatment regimens and outcomes. The data has been collected and curated manually from literature as well COSMIC.	ll as repositories and	databases like G	EO, DepMap, cB	ioPortal, GD	SC and
AMLdb					
Acute Myeloid Leukemia Database HOME DATASET - ANALYSIS - BIOMARKERS I	DOWNLOAD HELP	CREATORS			

Drug sensitivity characterization in AML cell lines

Investigating genetic and epigenetic changes in cancer cells can provide insight into the sensitivity of those cells to certain chemicals, and can also be used as indicators of how the cells may respond to different drugs marking its sensitivity or resistance. This page has been designed to allow the user to browse and retreive information on 41 different genes that has shown a **mutation frequency**>5 in 23 AML cell lines. User can browse these information using the options provided below to understand how different cell lines respond to the tested drugs. For detailed assistance visit the **HELP** section!

Search your keyword using any of the options given below Mutational analysis will take you to the page where a Genes: States Submit -Select--Selectparticular gene and drug could GSK1904529A be selected from the Irinotecan Olaparib Rapamycin dropdown menu SN-38 Veliparib

Biomarkers section will display the following table of potential biomarkers of AML



This link will take you to the Genecard webpage where information about the gene can be obtained

Click here to go the PubMed page for literature





The Hep section opens a page with six options. Click on the options below to read the hidden content

