

incubate



quench reaction & lyse cells





Figure S1, related to Figure 1. AML surface proteomics.

- (A) Simplified diagram depicting the principle of surface-specific proteomic analyses we performed in a panel of AML cell lines
- (B) Venn diagram comparing molecules identified by surface biotinylation in AML cells and reported surface markers in AML.

Table S1, related to Figure 1. Clusters of normal tissues

	Consensus	HPA	НРМ	
1	adipose tissue	adipose tissue'		adipocyte'
2	adrenal	adrenal gland'	Adult.Adrenal'	'adrenal gland'
3	appendix	appendix'		
4	bladder	urinary bladder'	Adult.Urinary.Bladder'	urinary bladder', 'urine'
5	blood		B.Cells', 'CD4.Cells', 'CD8.Cells', Monocytes', 'NK.Cells', 'Platelets'	B-lymphocyte', 'blood', 'bloo cytotoxic T-lymphocyte', 'he
6	bone	bone marrow'		bone', 'bone marrow stroma
7	brain	cerebellum','cerebral cortex', 'hippocampus', 'lateral ventricle'	Adult.Frontal.Cortex'	'brain', 'cerebral cortex', 'pre
8	breast	'breast'		'breast'
9	bronchus	'bronchus'		
10	cerumen			'cerumen'
11	cervix	cervix uterine'		cervical epithelium' 'cervica
12	epididymis	'epididymis'		
13	eve		Adult Retina'	'retina'. 'vitreous humor'
14	fallopian tube	'fallopian tube'		
15	gallbladder	'gallbladder'	Adult.Gallbladder'	'gall bladder'
16	gut	colon', 'duodenum', 'small intestine'	Adult.Colon'	colon', 'colon muscle', 'color
17	heart	'heart muscle'	Adult.Heart'	heart', 'proximal fluid (coron
18	kidney	'kidney'	Adult.Kidney'	'kidney'
19	eesophagus	'esophagus'	Adult.Esophagus'	'esophagus'
20	liver	'liver'	Adult.Liver'	'bile'. 'liver'
21	lung	'lung'	Adult.Lung'	'lung'
22	lymph node	'lymph node'		'lymph node'
23	nasopharvnx	Inasopharynx'		'nasopharynx'
24	oropharvnx	'oral mucosa'. 'salivary gland'		oral epithelium'. 'saliva'. 'sal
25	ovary	'ovarv'	Adult Ovarv'	'ovarv'
26	nancreas	'nancreas'	Adult Pancreas'	'nancreas' 'nancreatic islet'
20	pariercas	Inarathyroid gland'		
28	prostate	Inrostate'	Adult Prostate'	'prostate gland'
29	rectum	'rectum'	Adult Rectum'	'rectum'
30	seminal	'seminal vesicle'		'seminal plasma' 'seminal ve
31	skeletal muscle	'skeletal muscle'		
32	skin	lskin', 'skin 1', 'skin 2'		'hair follicle', 'skin'
33	smooth muscle	'smooth muscle'		
34	soft tissue	soft tissue 1'. 'soft tissue 2'		
35	spinal cord	,	Adult Spinal Cord	 'cerebrospinal fluid' 'spinal c
36	spinarcoru	'snleen'		
37	stomach	stomach', 'stomach 1', 'stomach 2'		'cardia', 'stomach'
38	synovial fluid			'synovial fluid'
39	testis	'testis'	Adult.Testis'	'testis'
40	thyroid	'thyroid gland'		'thyroid gland'
41	tonsil	'tonsil'		'tonsil'
12		endometrium' landometrium		'myometrium'
42		1', 'endometrium 2'		
43	vagina	'vagina'		

PDB
and'
dder', 'urine'
yte', 'blood', 'blood platelet', -lymphocyte', 'belper T-lymphocyte', 'monocyte', 'natural killer cell', 'serum'
e marrow stromal cell', 'mesenchymal stem cell'
ebral cortex', 'prefrontal cortex'
ithelium', 'cervical mucosa', 'uterine cervix', 'uterus'
eous humor'
, pr 1
on muscle', 'colonic epithelial cell', 'gut', 'ileum epithelial cell'
ximal fluid (coronary sinus)'
5'
e' nx'
lium', 'saliva', 'salivary gland'
'nanaraatia islat' 'nanaraatia iujaa'
and'
asma', 'seminal vesicle', 'spermatozoon'
' 'skin'
,
not fluid! Inning! cond!
nai fiuid, spinai cord
omach'
iid'
nd'
m'





bror





В



D

parathyroid lymph

not available

Figure S2, related to Figure 2. Integrated database.

(A) PDB, the log10 expression density, plotted with normal curve overlay. Dashed black line placed at peak maximum and dashed purple lines at one standard deviation above and below peak max. (B) HPM, ordered log10 expression. Dashed black line placed at peak maximum and dashed purple lines at one standard deviation above and below peak max. (C) Expression profile of HER2, targeted in breast cancer and related to toxicity in the lung (arrow); CAIX, targeted in renal cell carcinoma, and related to toxicity in the biliary system (arrow at the site of gallbladder); CEACAM5, targeted in colon cancer and related to hemorrhagic colitis. High expression was found in the normal colon (arrow) as well as stomach and esophagus. Adoptively transferred T cells were found at these sites in treated patients. (D) Heatmap showing the expression profile of selected candidates with no high (3) expression in a large panel of normal tissues, excluding blood, bone marrow and spleen.

Pt	Age	Sex	Cytogenetics	NPM1	FLT3	IDH1	IDH2	SUZ12	TP53	DNMT3A	WT1	СЕВРА	RUNX1	NRAS	KRAS	TET2	KIT	ASXL1	ETV6	CBL	TET1	TYK2
1	44	F	46,XX [20]	yes	yes	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
2	55	М	47,XY,+15[17], 46, XY[3]	no	yes	no	yes	yes	no	no	no	no	no	no	no	no	no	no	no	no	no	no
3	62	М	N/A	no	no	no	yes	no	no	no	no	yes	no	no	no	no	no	yes	no	no	no	no
4	71	F	Del 7g31 detected in 2.3% of the cells (FISH)	ves	no	ves	no	no	no	ves	no	no	no	no	no	no	no	no	no	no	no	no
5	82	М	46,XY [20]	no	no	no	yes	yes	no	no	no	yes	no	no	no	no	no	no	no	no	no	no
6	81	F	49,XX,+6,+11,+21[1]/46,XX[19]	no	no	no	yes	no	no	no	no	no	no	yes	no	no	no	yes	no	no	no	no
7	67	М	46,XY,t(8;15)(q24;q22)[2]/46,XY[18]	no	yes	yes	no	no	no	yes	yes	yes	no	no	no	no	no	no	no	no	no	no
8	70	М	N/A	no	no	yes	no	no	no	yes	no	no	no	no	no	no	no	no	no	no	no	no
9	53	М	46,XY,del(2q)[20]	no	no	yes	no	no	no	yes	no	yes	no	no	no	no	no	no	no	no	no	no
			Loss of RUNX1(21q22) gene detected in 61.3% of																			í
10	45	М	the interphase cells (FISH)	no	no	no	no	no	no	yes	no	no	yes	no	no	yes	yes	no	no	no	no	no
11	45	М	46,XY [20]	no	no	no	no	no	no	no	no	yes	no	no	no	no	no	yes	no	no	no	no
12	32	F	47,XX,+11[20]	no	no	yes	no	no	no	yes	no	no	no	no	yes	no	no	no	no	no	no	no
13	70	М	46,XY [21]	no	no	yes	yes	no	no	no	no	yes	no	no	no	no	no	yes	no	no	no	no
14	52	F	47,XX,del(6q),+13,add(19)(q13)[17]	no	no	no	yes	no	no	yes	no	no	yes	yes	no	no	no	no	no	no	no	no
15	30	М	46,XY[20]	no	no	no	no	no	no	no	no	yes	no	no	no	no	no	no	no	no	no	no
16	41	М	N/A	no	yes	no	yes	no	yes	yes	yes	no	no	no	no	no	no	no	no	no	no	no
17	50	М	46,XY,t(14;19)(q32;q13) [21]/46,XY [1]	no	yes	no	no	no	no	no	no	yes	no	no	no	no	no	no	no	no	no	no
18	20	F	46,XX,del(5q),del(11)(q23q25)[1]/46,XX[20]	no	yes	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
19	49	М	46,XY [20]	no	no	no	no	no	no	no	no	no	no	no	no	yes	no	no	no	no	yes	no
20	50	М	47,XY,+8[20]	no	no	no	no	no	no	yes	no	no	no	no	yes	no	no	no	no	no	no	no
21	71	М	46,XY,25~40dmin[2]/46,XY[16]	no	no	no	yes	no	no	yes	no	no	yes	yes	no	no	no	no	no	no	no	no
22	61	М	46-47,XY,+mar[cp5]/46,XY [5]	no	no	no	yes	no	no	yes	no	yes	no	no	no	no	no	no	yes	no	no	no
		_	46,XX,t(4;15)(q12;q22),der(17),																			1
23	40	F	((1;17)(q21;p11.2) [cp19]	no	no	yes	no	no	no	yes	no	no	no	no	no	no	no	no	no	no	yes	yes
24	45	F	46,XX [20]	no	no	no	no	no	no	no	yes	yes	no	no	no	no	yes	no	no	no	no	no
25	52	F	46,XX [20]	yes	yes	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
26	49	F	47,XX,+11[19]/46,XX[2]	no	yes	no	yes	no	no	yes	yes	yes	yes	no	no	no	no	no	no	no	no	no
27	51	М	46,XY [20]	yes	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
28	77	F	N/A	yes	no	no	yes	yes	no	yes	no	yes	no	no	no	no	no	no	no	yes	no	no
29	44	М	N/A	yes	yes	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
30	39	F	46-51,XX,add(3)(p26),t(4;15)(p16;q13), +5,del(5)(q13q33),i(5)(p10),+8x3,i(8)(q10), del(10)(q22q24),del(17)(p11), (17)(q10)[cp12]/95-103,idemx2,+6, add(8)(p23),del(8)(p11),add(12)(q24),add(14)(q34),- 19x2,-20x2, add(22)(p13) [7]	yes	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no

Table S2, related to Figure 3. Patient characteristics









Figure S3, related to Figure 5. Scatter plots.

First row shows 2 scatter plots of ADGRE2+CD33 pair from 2 patients. Second row shows 2 scatter plots of CD70+CD33 pair from 2 patients. Third row shows 2 scatter plots of CCR1+CLEC12A pair from 2 patients and fourth row shows 2 scatter plots of LILRB2+CLEC12A pair from 2 patients. The presented data were acquired on different days and in different patients and analyzed in respect to their specific controls.