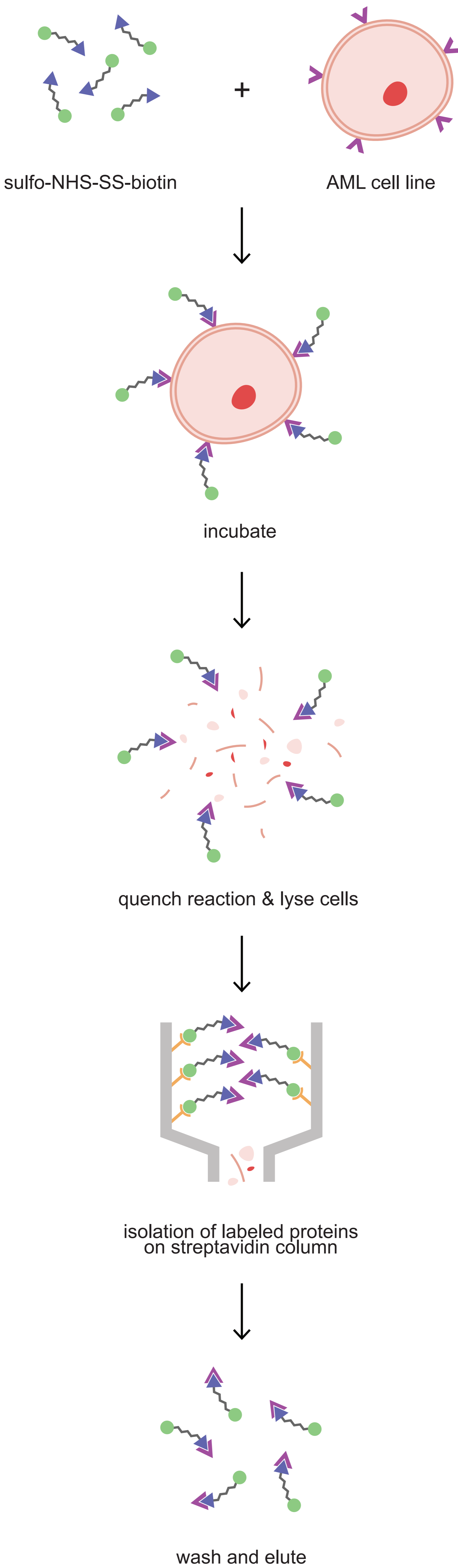


A



B

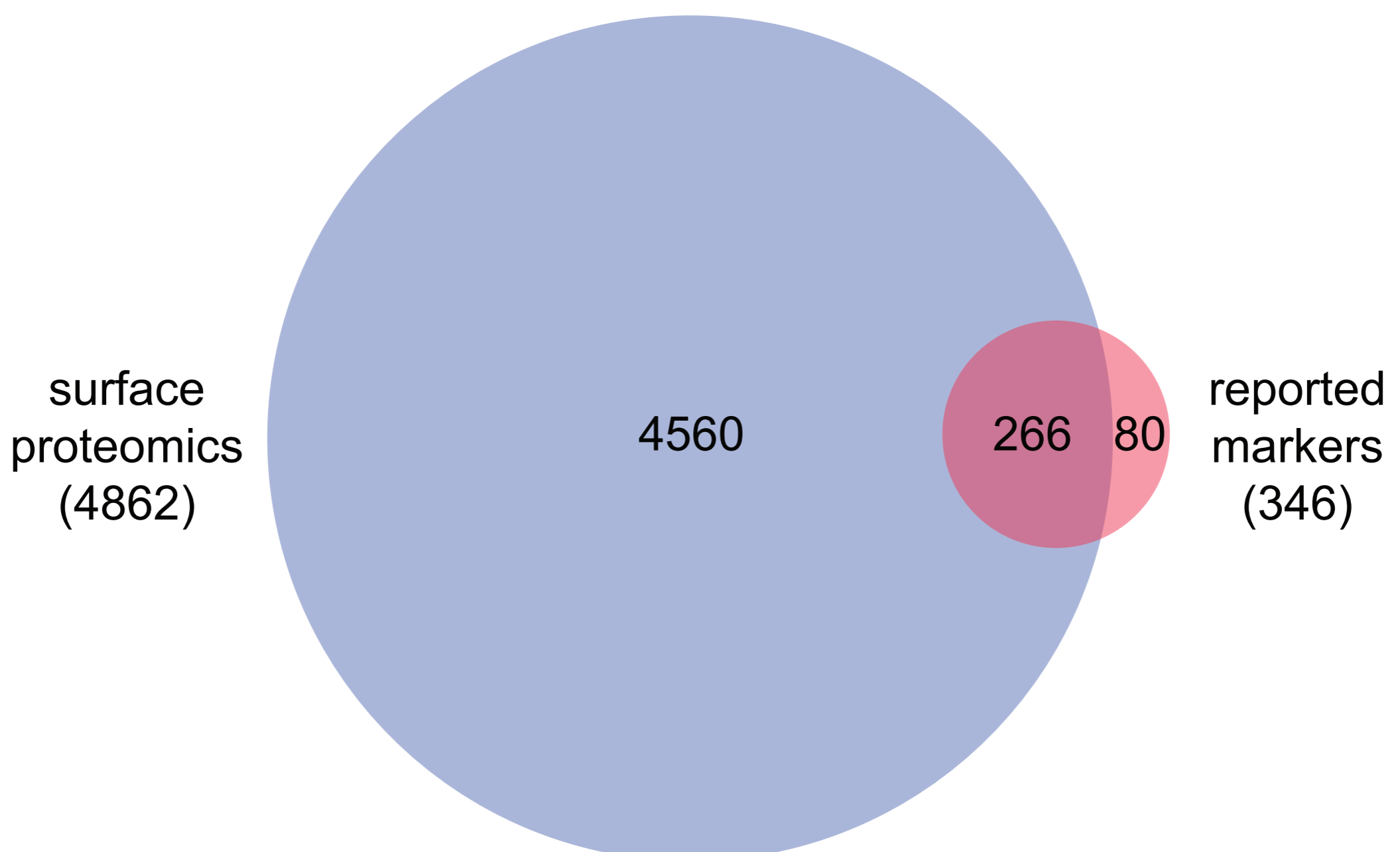


Figure S1, related to Figure 1. AML surface proteomics.

(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**

	<b>Consensus Tissue Name</b>	<b>HPA</b>	<b>HPM</b>	<b>PDB</b>
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', 'blood platelet', 'cytotoxic T-lymphocyte', 'helper T-lymphocyte', 'monocyte', 'natural killer cell', 'serum'
6	bone	'bone marrow'		'bone', 'bone marrow stromal cell', 'mesenchymal stem cell'
7	brain	cerebellum', 'cerebral cortex', 'hippocampus', 'lateral ventricle'	Adult.Frontal.Cortex'	'brain', 'cerebral cortex', 'prefrontal cortex'
8	breast	'breast'		'breast'
9	bronchus	'bronchus'		
10	cerumen			'cerumen'
11	cervix	'cervix, uterine'		'cervical epithelium', 'cervical mucosa', 'uterine cervix', 'uterus'
12	epididymis	'epididymis'		
13	eye		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', 'colonic epithelial cell', 'gut', 'ileum epithelial cell'
17	heart	'heart muscle'	Adult.Heart'	'heart', 'proximal fluid (coronary sinus)'
18	kidney	'kidney'	Adult.Kidney'	'kidney'
19	oesophagus	'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	nasopharynx	'nasopharynx'		'nasopharynx'
24	oropharynx	'oral mucosa', 'salivary gland'		'oral epithelium', 'saliva', 'salivary gland'
25	ovary	'ovary'	Adult.Ovary'	'ovary'
26	pancreas	'pancreas'	Adult.Pancreas'	'pancreas', 'pancreatic islet', 'pancreatic juice'
27	parathyroid	'parathyroid gland'		
28	prostate	'prostate'	Adult.Prostate'	'prostate gland'
29	rectum	'rectum'	Adult.Rectum'	'rectum'
30	seminal	'seminal vesicle'		'seminal plasma', 'seminal vesicle', 'spermatozoon'
31	skeletal muscle	'skeletal muscle'		
32	skin	'skin', '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 cord'
36	spleen	'spleen'		'spleen'
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'
42	uterus	'endometrium', 'endometrium 1', 'endometrium 2'		'myometrium'
43	vagina	'vagina'		

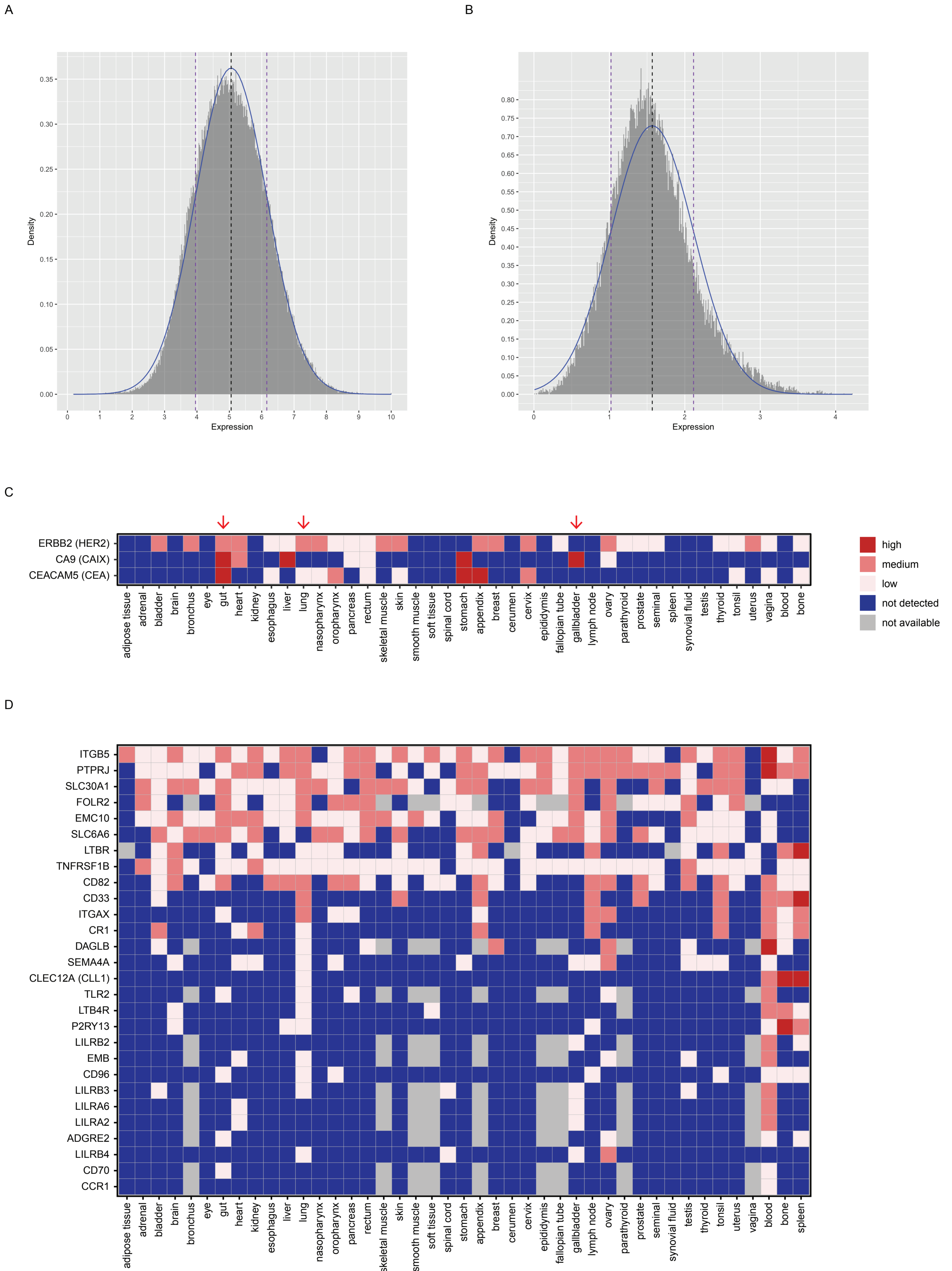


Figure S2, related to Figure 2. Integrated database.

(A) PDB, the log<sub>10</sub> 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 log<sub>10</sub> 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.



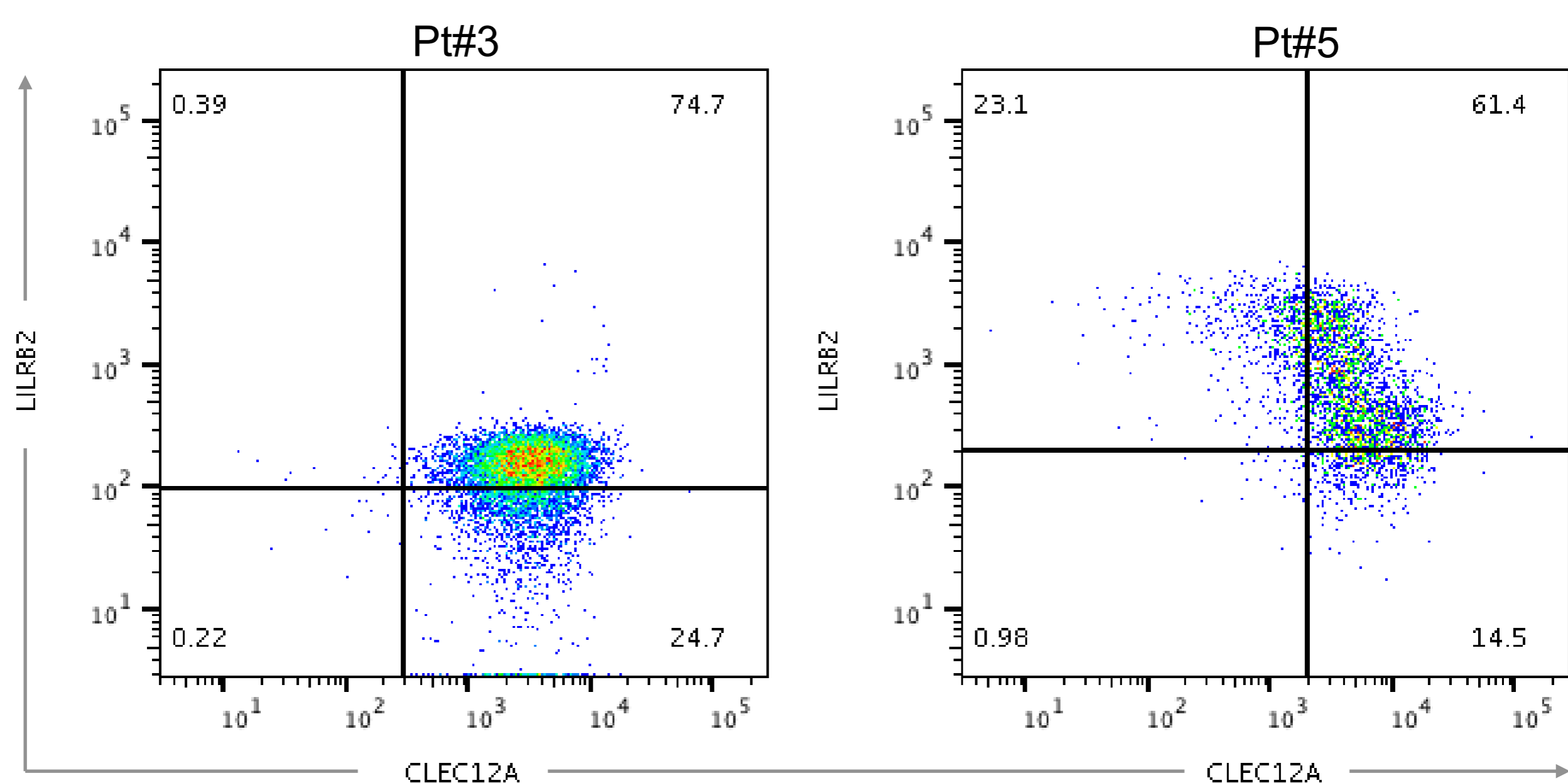
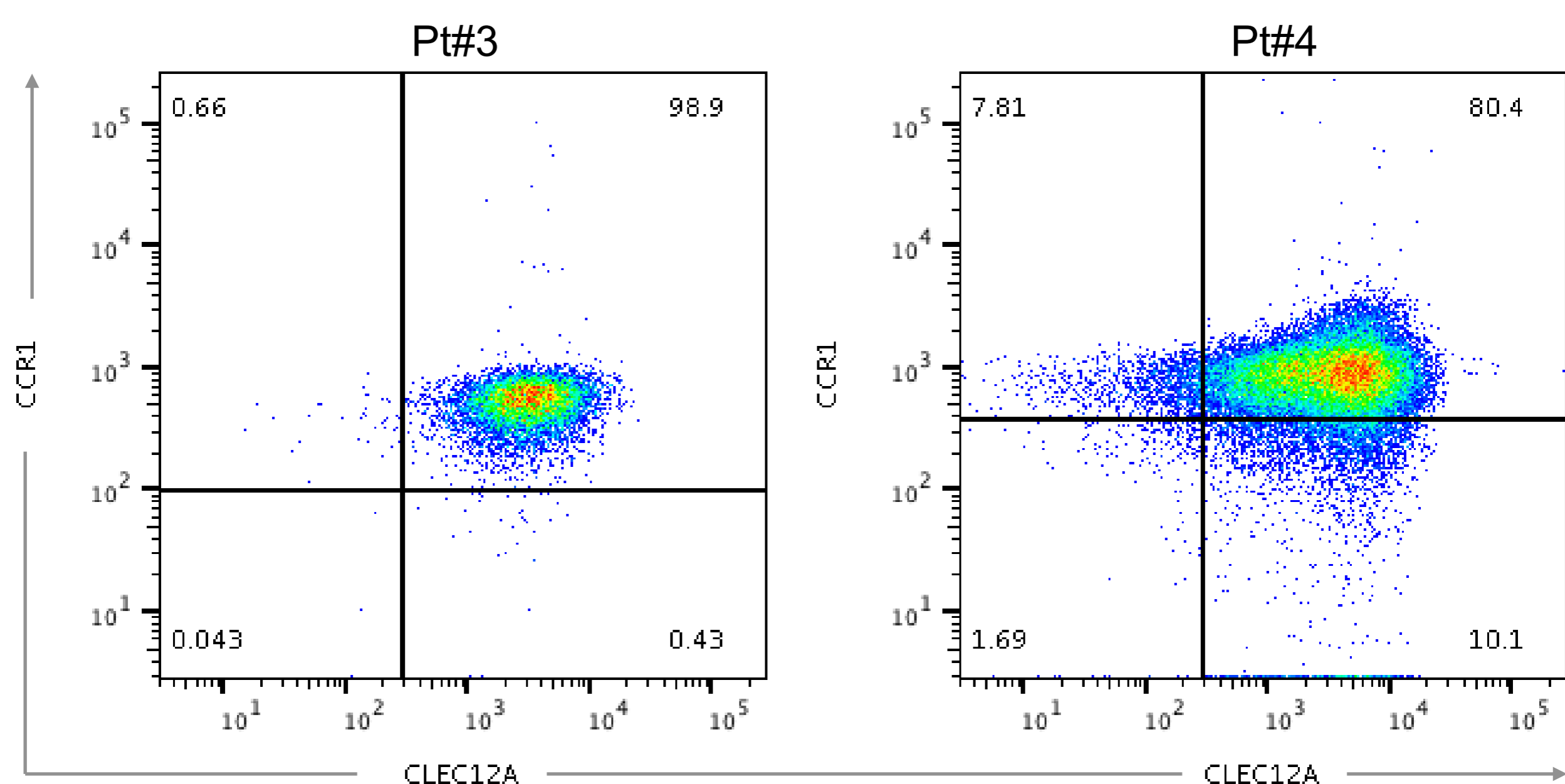
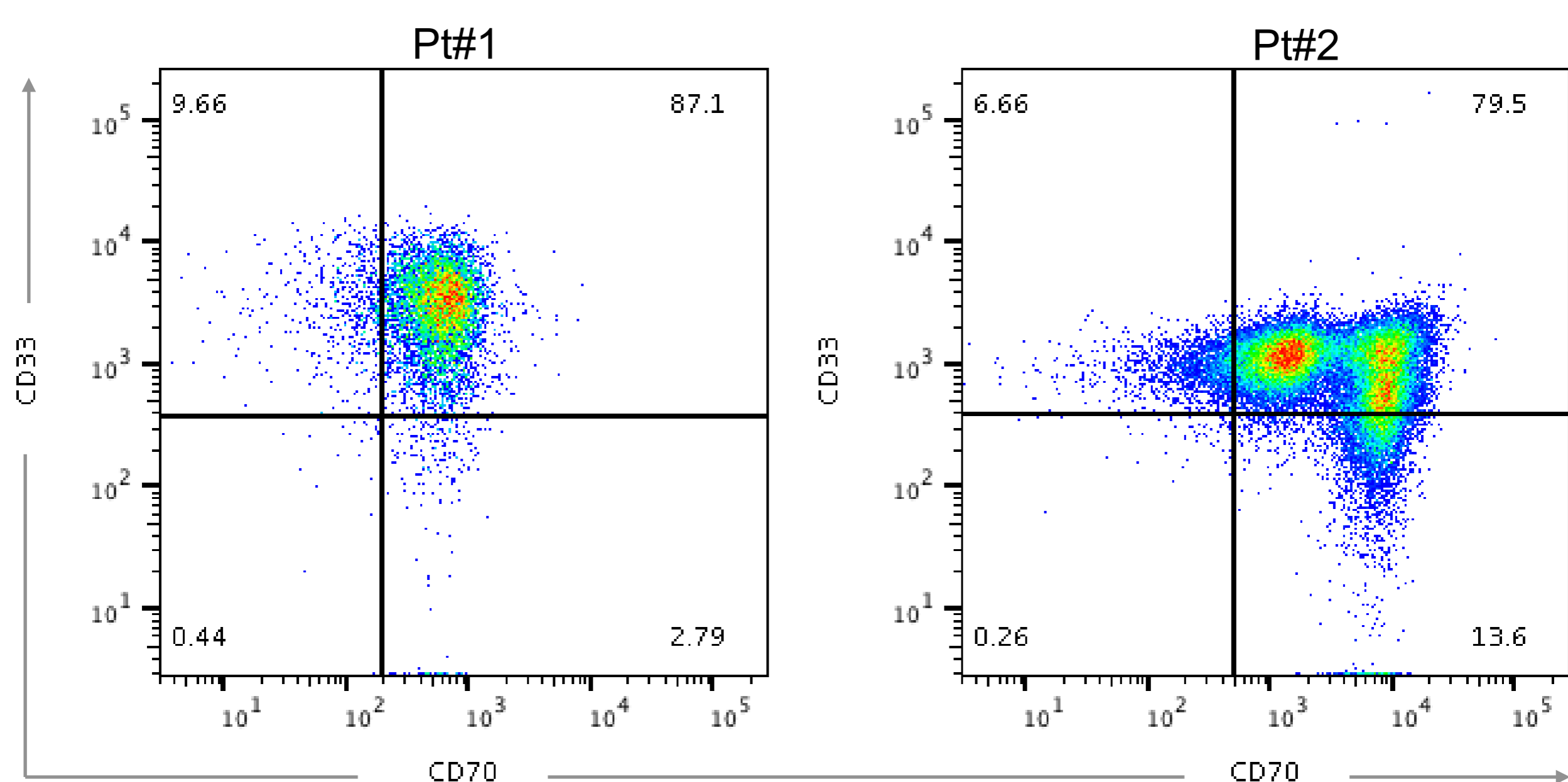
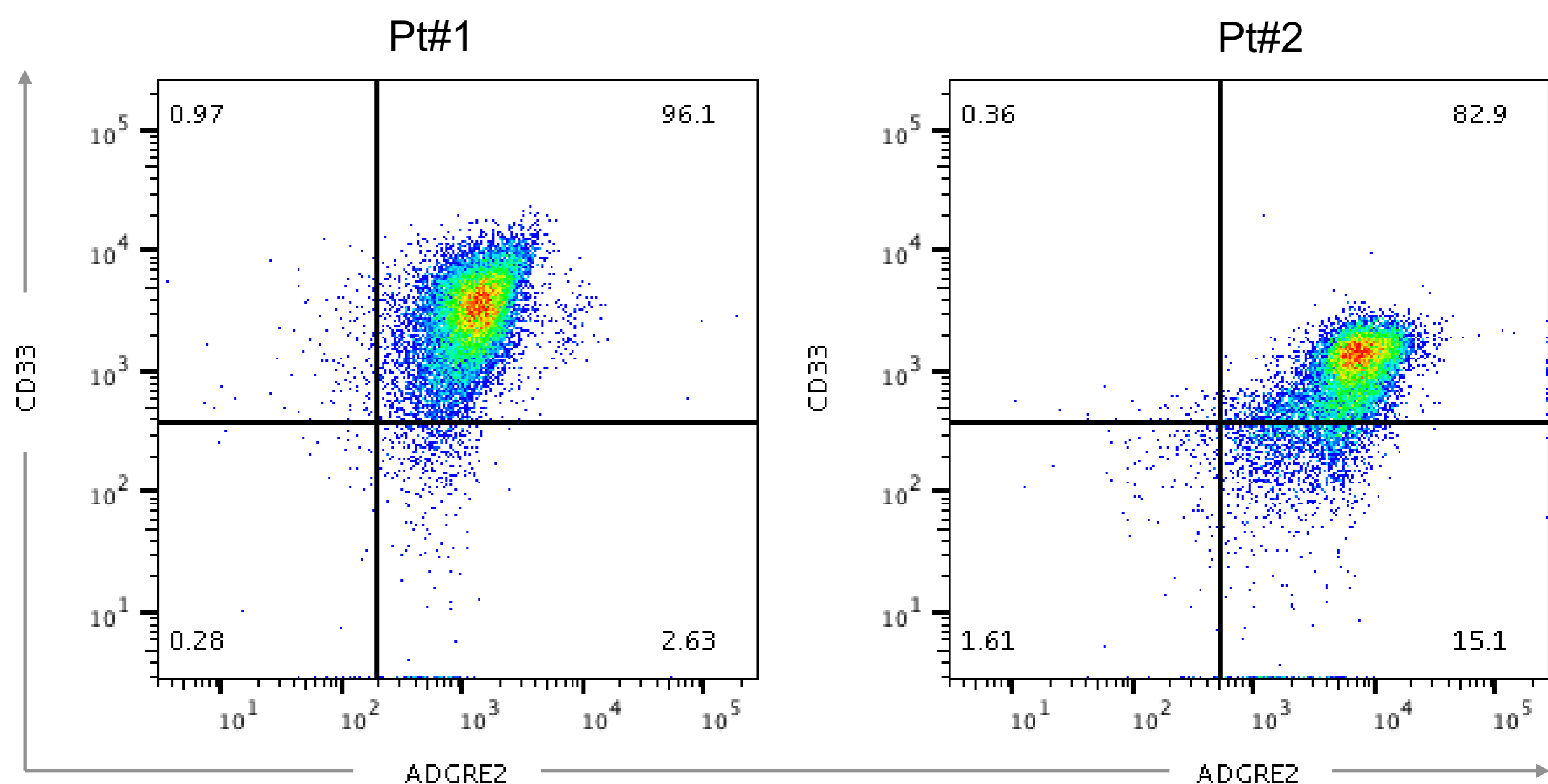


Figure S3, related to Figure 5. Scatter plots.

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.