

Table S1.

		All structures	LOBULES	DUCTS	Lobules	Ducts	Lobules	Ducts	Lobules	Ducts
Biopsy No.	Age (years)	% contiguous	% contiguous	% contiguous	contiguous	contiguous	patched	patched	scattered	scattered
1	13	100	100	100	7	5	0	0	0	0
2	17	100	100	100	18	6	0	0	0	0
3	17	100	100	100	6	6	0	0	0	0
4	18	94,7	88,9	100	8	10	1	0	0	0
5	18	100	100	100	13	5	0	0	0	0
6	19	100	100	100	13	1	0	0	0	0
7	19	91,7	88,9	100	8	3	1	0	0	0
8	19	100	100	100	7	3	0	0	0	0
9	19	73,9	60	100	9	8	6	0	0	0
10	20	100	100	100	19	10	0	0	0	0
11	20	100	100	100	14	4	0	0	0	0
12	20	97,2	100	91,7	24	11	0	1	0	0
13	20	41,7	28,6	60	2	3	4	2	1	0
Average <21:		92.2%	89.7%	96.3%						
14	22	30,8	12,5	60	1	3	6	2	1	0
15	22	50	12,5	100	1	6	3	0	4	0
16	23	35,3	20	57,1	2	4	6	3	2	0
17	23	100	100	100	13	7	0	0	0	0
18	24	100	100	100	16	3	0	0	0	0
19	24	60	25	83,3	1	5	3	1	0	0
20	27	89,5	87,5	100	14	3	2	0	0	0
21	27	27,3	0	60	0	3	2	2	4	0
22	28	66,7	59,1	100	13	5	9	0	0	0
23	28	50	25	83,3	2	5	5	1	1	0
24	29	63,6	56	87,5	14	7	5	1	6	0
25	29	61,5	57,1	66,7	8	8	5	3	1	1
26	32	88,6	95,5	76,9	21	10	1	3	0	0
27	32	79,2	84,2	60	16	3	1	2	2	0
28	33	68,4	69,2	66,7	9	4	2	1	2	1
29	34	87	80	100	12	8	3	0	0	0
30	34	77,8	69,2	100	9	5	3	0	1	0
31	36	91,5	91,9	90	79	18	5	1	2	1
32	39	100	100	100	10	8	0	0	0	0
33	39	80	72,7	100	8	4	3	0	0	0
34	40	57,1	30	81,8	3	9	6	2	1	0
35	41	71,4	70	75	7	3	3	1	0	0
36	42	92,9	91,7	100	11	2	1	0	0	0
37	43	56,3	60	50	6	3	3	3	1	0
38	43	53,8	37,5	80	3	4	5	0	0	1
39	44	73,1	69,6	100	16	3	7	0	0	0
40	44	60	40	100	4	5	6	0	0	0
41	45	100	100	100	6	10	0	0	0	0
42	45	62,5	50	83,3	5	5	5	1	0	0

43	45	89,7	90	88.9	18	8	1	1	1	0	
44	45	73,3	66.7	100	8	3	2	0	2	0	
45	45	53,8	70	0	7	0	2	3	1	0	
46	45	54,5	28.6	100	2	4	5	0	0	0	
47	46	83,7	83.7	83.3	36	5	5	1	2	0	
48	46	60	54.5	75	6	3	3	1	2	0	
49	46	68,6	63.8	91.7	37	11	11	1	10	0	
50	49	41,2	53.8	0	7	0	2	3	4	1	
51	51	84,6	66.7	90	2	9	0	1	1	0	
52	54	93,8	90.9	100	10	5	0	0	1	0	
53	56	30	41.7	12.5	5	1	2	2	5	5	
54	57	40	25	100	3	3	7	0	2	0	
55	59	100	100	100	10	4	0	0	0	0	
56	59	30	7.7	71.4	1	5	2	2	10	0	
57	75	85,7	78.6	100	11	7	3	0	0	0	
Average >21:		68.7%	61.1%	81.2%							
					Total:	621	306	157	45	70	10
					All:	1209					
					Contiguous:	927/1209 (76.7%)					
					Lobules:	848	Contiguous	621 (73.2%)			
					Ducts:	361	Contiguous	306 (84.8%)			
		All structures	Lobules	Ducts							
≥80% contiguous <21 years		11/13 (84.6%)	11/13 (84.6%)	12/13 (92.3%)							
≥80% contiguous >21 years		16/44 (36.4%)	14/44 (31.8%)	30/44 (68%)							

Supplemental Legends

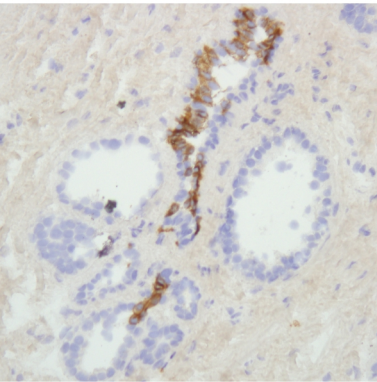
Figure S1. Comparison of two monoclonal antibodies (104D2 and K45) against CD117 reveal an identical staining pattern. Bar, 50 μm .

Figure S2. Distribution of contiguous structures in ducts and lobules from 57 donors correlated to age. (A) FACS-diagrams showing the gating strategy for analysis of the frequency of CD117-positive cells within the luminal compartment of normal breast tissue. (B) Diagrams showing the percentage of contiguous structures in lobules and ducts according to age. Spearman correlation test indicates an age-related reduction in contiguous structures for lobules. $\rho=-0.31$, $p < 0.05$.

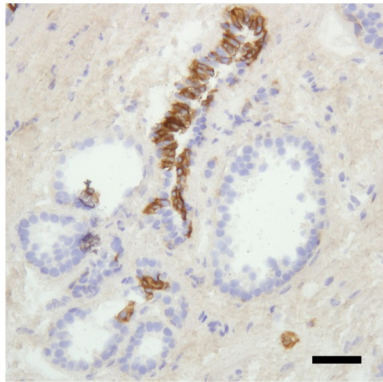
Figure S3. (A) Serial sections stained by immunoperoxidase from an area with widespread expression of GATA3. A neighboring section shows a reaction intensity for ER α ranging from strong to negative. Accompanying serial sections were also stained for CD117 and CAM5.2. Bar, 50 μm . (B) Serial sections from a lactating breast gland stained for CD117 or CAM5.2. Bar, 50 μm

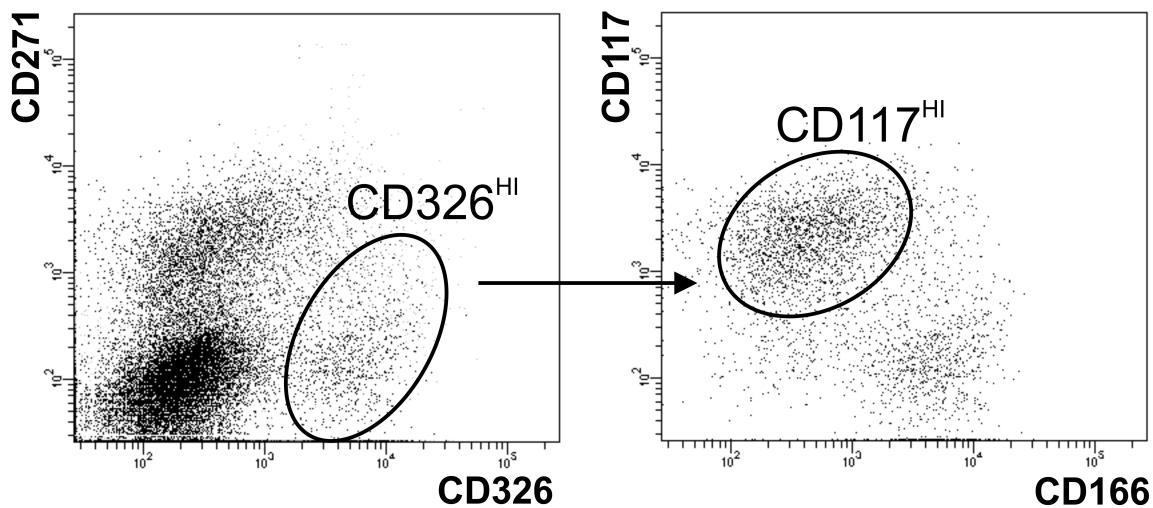
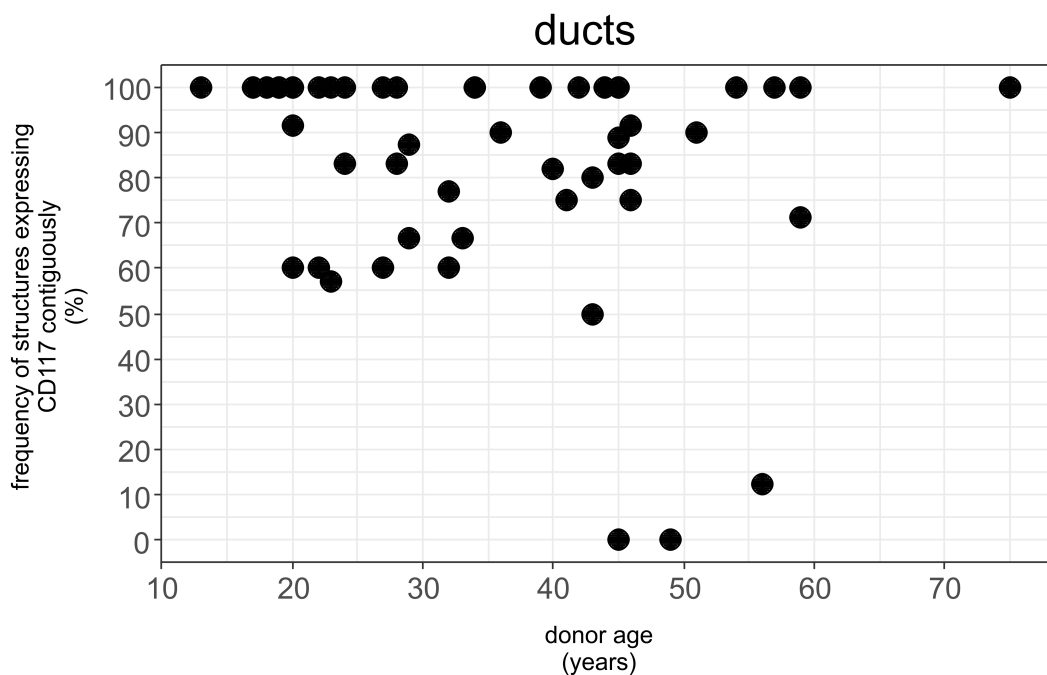
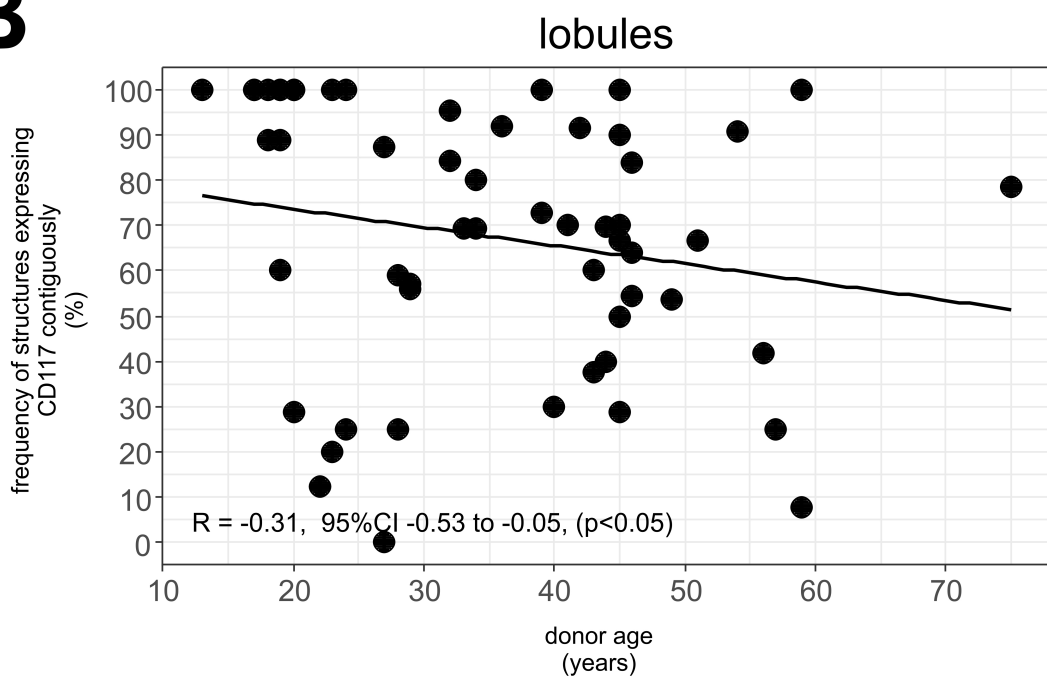
Figure S4. Serial sections of aberrant structures from three normal-derived breast glands stained for CD117, Ki67 and CAM5.2 by immunoperoxidase. Bar, 50 μm .

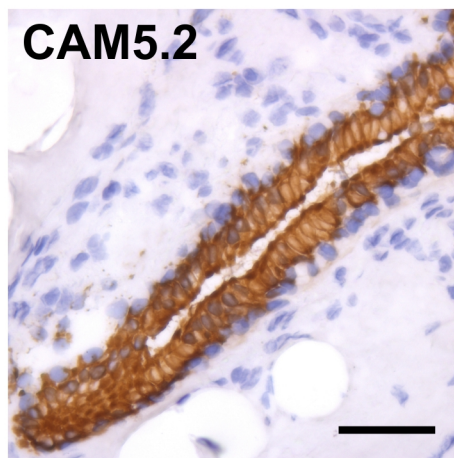
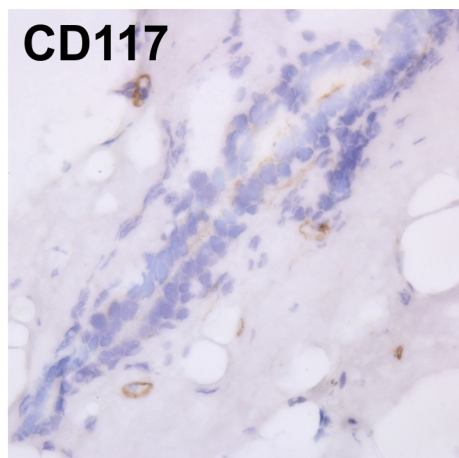
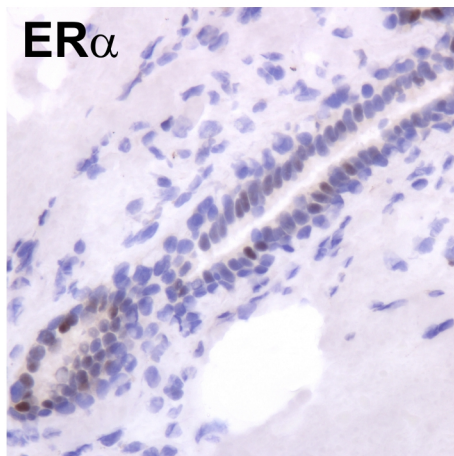
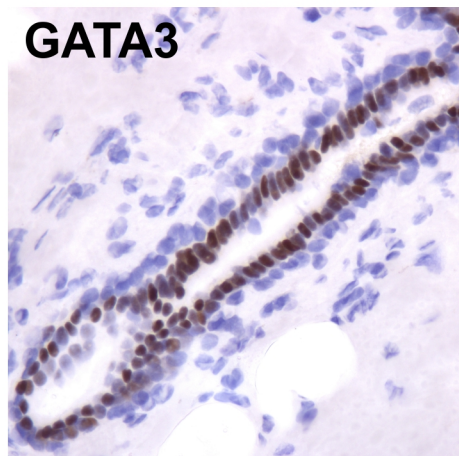
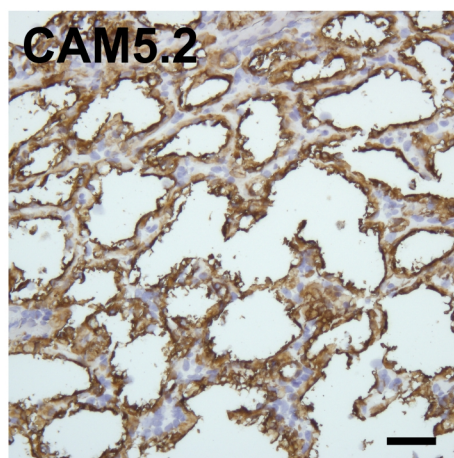
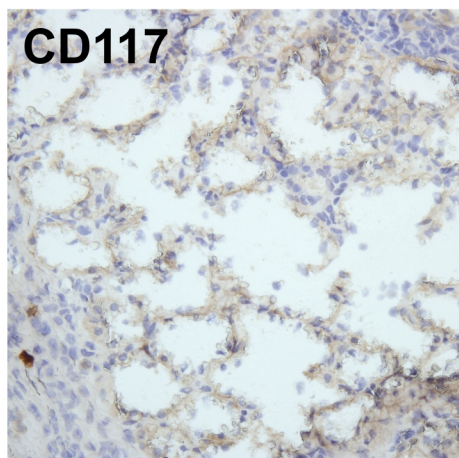
104D2



K45



A**B**

A**B**

CD117

Ki67

CAM5.2

