

Supplementary Materials

Circulating Tumor Cell Clusters are Frequently Detected in Women with Early-Stage Breast Cancer

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Table S1. Clinico-pathological characteristics of the patients' cohort for technological comparison.

	N	%
Histology		
• Ductal	10	62.5
• Lobular	6	37.5
Disease type at screening		
• Visceral	12	75.0
• Nonvisceral	4	25.0
Hormone receptor status		
• ER -positive, PgR positive or both	11	68.8
• ER-negative and PgR-negative	5	31.2
HER2 status		
• Positive	1	6.2
• Negative	15	93.8

Table S2. CTC-cluster count in samples processed in parallel with CellSearch and CellSieve filters.

Sample ID	CellSearch	CellSieve	
	CK ^{pos}	CK ^{pos}	CK ^{neg}
1	0	8	6
2	1	4	5
3	1	3	5
4	2	6	5
5	108	112	NE
6	0	5	2
7	0	5	3
8	7	0	1
9	1	2	3
10	0	0	0
11	2	0	0
12	0	1	1
13	0	1	0
14	0	1	0
15	0	0	0
16	2	6	2
17	0	1	2
18	8	15	0
19	25	24	1

NE = Not evaluable due to the high number of cells on the filter.

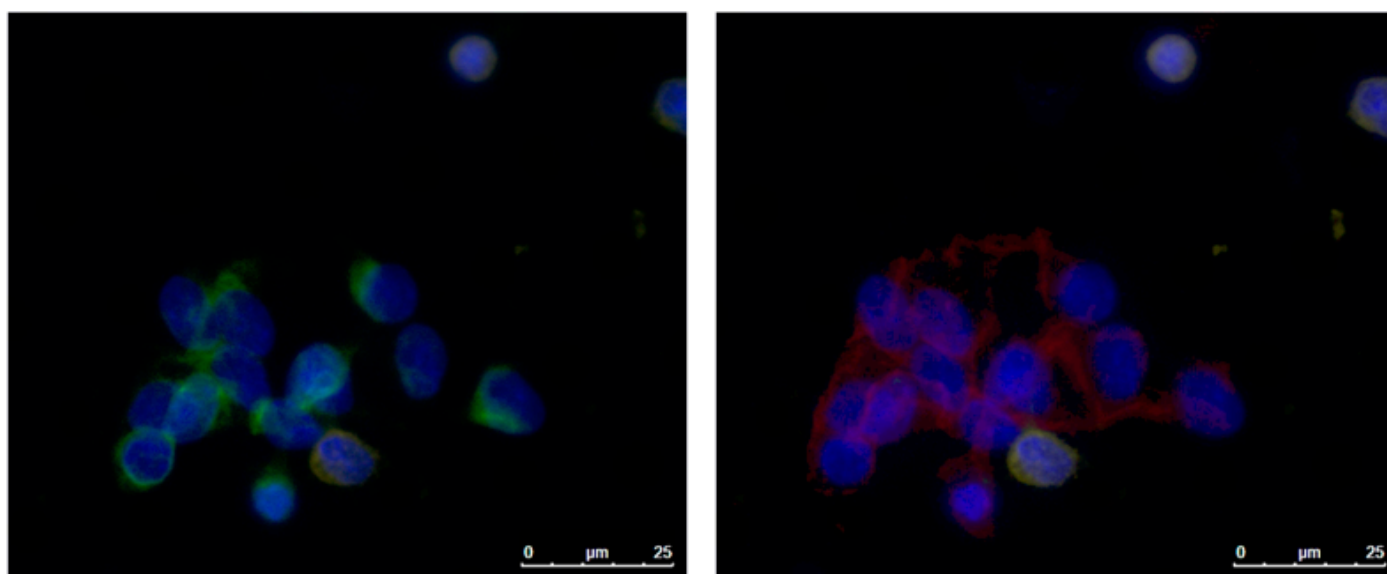


Figure S1. CTC-clusters expressing CD31. Representative image of a CTC-cluster showing expression of both CK (left panel; green = CK, blue = DAPI) and CD31 (right panel; red = CD31). Apart from one blood cell expressing CD45 (in yellow), the rest of the cells forming the cluster are CD45^{neg}.

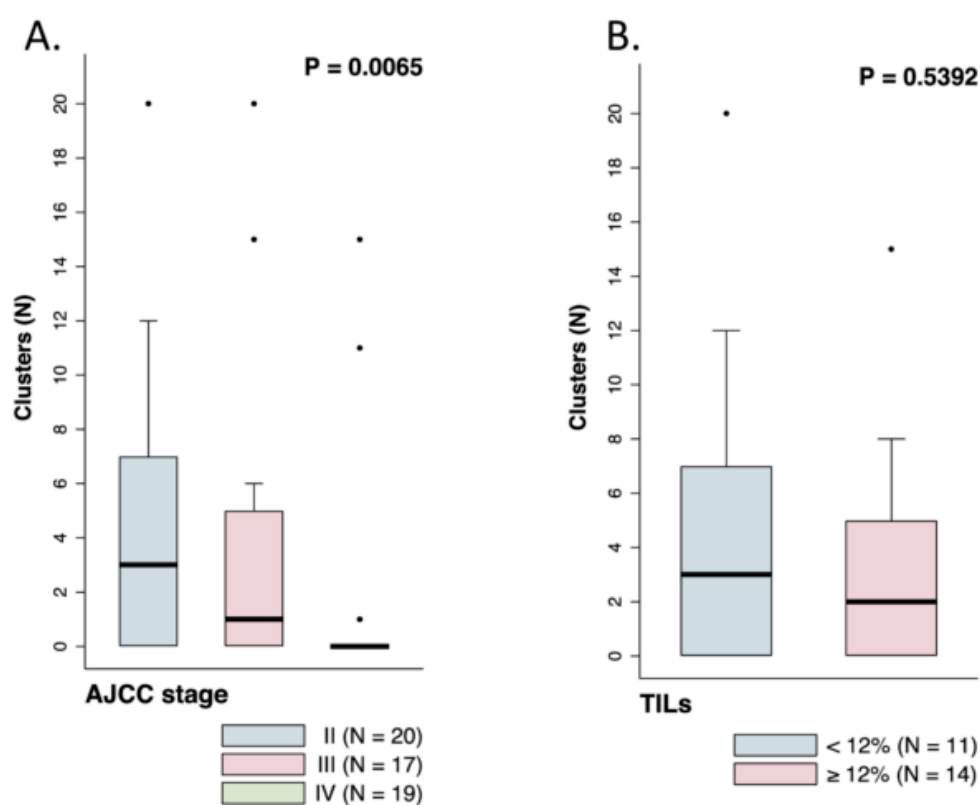


Figure S2. Association of CTC-clusters with clinico-pathological characteristics in patients with EBC. Boxplots reporting the number of CTC-clusters detected in baseline samples, according to patients' AJCC stage (A) and to tumor infiltrating lymphocytes (TILs) rates (low = <12%; high = ≥12%) evaluated at the primary tumor site (B).

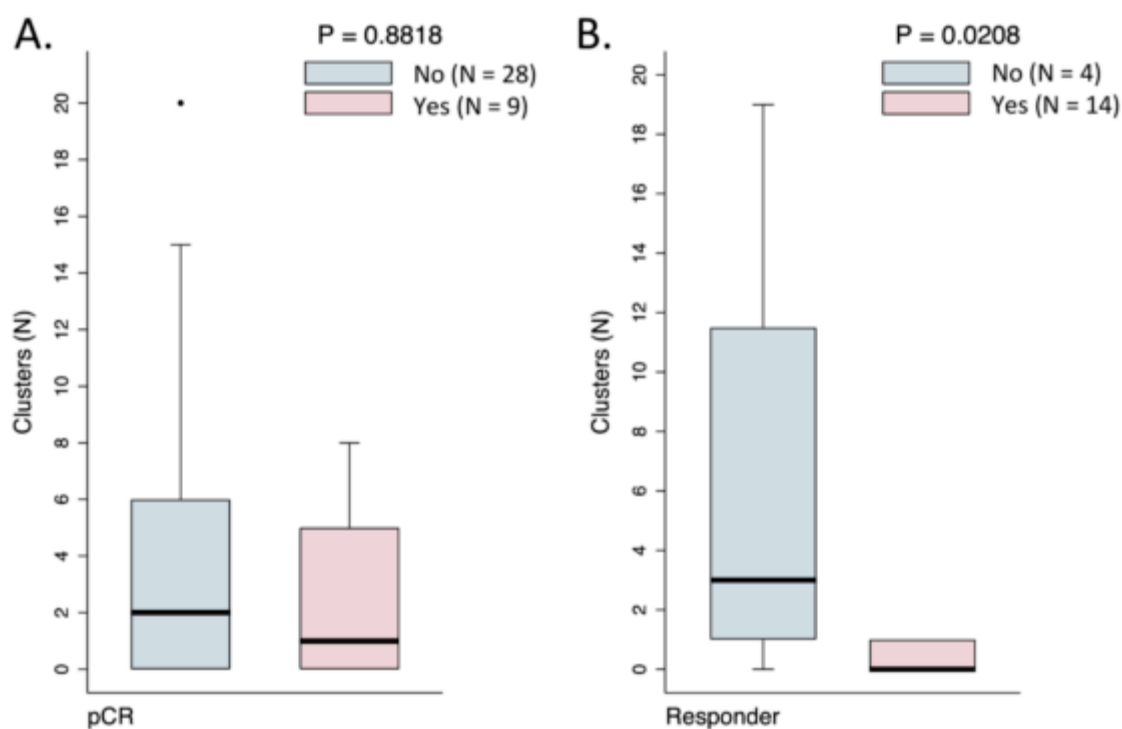


Figure S3. Association of CTC-clusters with outcome in EBC patients. Boxplots reporting the number of CTC-clusters detected (A) in samples collected at baseline, according to the pathological complete response (pCR) evaluation ('no' = patients who did not reach pCR, light-blue bar; 'yes' = patients who reached pCR, violet bar); and (B) in samples collected after surgery, in responder versus non-responder patients ('no' = patients not achieving down-staging, light-blue bar; 'yes' = patients where a down-staging was achieved after NAC, violet bar). A higher post-surgery number of clusters was detectable in patients with no tumor shrinkage after primary chemotherapy.