

**Supplementary Table 1** Clinicopathological features of the three cohorts examined

**(A)** Multi-gene assay (MGA)-cohort

Variable		MGA-cohort (n = 51)	
Age, mean [range], y		52.0	[31-76]
Histology	NST	45	(88)
	Others -	6	(12)
	ILC	3	
	IMPC	2	
	ICC	1	
pT, mean [range], mm		25.0	[8-75]
pN	Positive	25	(49)
	Negative	26	(51)
pStage	I	17	(33)
	II	31	(61)
	III	3	(6)
Tumour grade	High	9	(18)
	Intermediate/low	42	(82)
Ki67 L.I., mean [range],%		39.2	[5-80]
ER	Positive	51	(100)
	Negative	0	(0)
PgR	Positive	51	(100)
	Negative	0	(0)

Values are n (%) unless otherwise indicated.

*NST* no special type, *ILC* invasive lobular carcinoma, *IMPC* invasive micropapillary carcinoma, *ICC* invasive cribriform carcinoma, L.I. labelling index, ER estrogen receptor, PgR progesterone receptor

**(B) Neoadjuvant chemotherapy (NAC)-cohort**

Variable		NAC-cohort (n = 96)	
Age, mean [range], y		51.8	[22-78]
Histology	NST	92	(96)
	Others -	4	(4)
	ILC	4	
ypT, mean [range], mm		28.7	[0-110]
ypN	Positive	61	(64)
	Negative	35	(36)
ypStage	0	5	(5)
	I	17	(18)
	II	50	(52)
	III	24	(25)
Tumour grade	High	10	(10)
	Intermediate/low	85	(89)
	Unknown	1	(1)
Ki67 L.I., mean [range],%		24.8	[2-90]
ER	Positive	96	(100)
	Negative	0	(0)
PgR	Positive	69	(72)
	Negative	26	(27)
	Unknown	1	(1)
NAC regimen	A+T	90	(94)
	A alone	5	(5)
	T alone	1	(1)

Values are n (%) unless otherwise indicated.

*NST* no special type, *ILC* invasive lobular carcinoma, *L.I.* labelling index, *ER* estrogen receptor, *PgR* progesterone receptor, *A* anthracycline, *T* taxane

(C) Tissue microarray (TMA)-cohort

Variable		TMA-cohort (n = 609)	
Age, mean [range], y		56.3	[28-93]
Histology	NST	507	(83.2)
	Others -	102	(16.8)
	ILC	52	
	Mucinous	31	
	IMPC	7	
	ICC	4	
	Tubular	4	
	Apocrine	2	
	Medullary	1	
	Squamous	1	
pT, mean [range], mm		27.6	[2-139]
pN	Positive	232	(38)
	Negative	333	(55)
	Not evaluated	44	(7)
pStage	I	186	(31)
	II	355	(58)
	III	68	(11)
Tumour grade	High	72	(12)
	Intermediate/low	494	(81)
	Not evaluated	43	(7)
Ki67 L.I., mean [range],%		32.8	[0-100]
ER	Positive	605	(99)
	Negative	4	(1)
PgR	Positive	556	(91)
	Negative	53	(9)
Adjuvant chemotherapy	Yes	205	(34)
	No	404	(66)

*NST* no special type, *ILC* invasive lobular carcinoma, *IMPC* invasive micropapillary carcinoma, *ICC* invasive cribriform carcinoma, L.I. labelling index, ER estrogen receptor, PgR progesterone receptor