#### MBB3: Breast Tumour Tissue Array (Human)

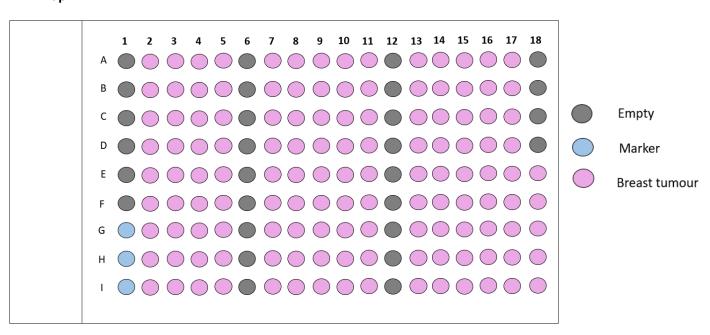
134 cases and 3 markers, include pathological grade, and TNM



#### **Description:**

Product code	MBB3
Cases	134
Row number	18
Column number	9
Core diameter (mm)	0.6
Thickness	4μm
Tissue array type	FFPE
Species	Human
Application	Immunohistochemistry
	In situ hybridization
	Fluorescent in situ hybridization
	<ul> <li>Terminal deoxynucleotidyl transferase dUTP nick- end labelling (TUNEL) analysis</li> </ul>
	In situ polymerase chain reaction (In situ PCR)
Notes	Storage temperature: 4°C
	Shipping temperature: Ambient

#### TMA Map:



# **Patient information:**

Position	Age	Gender	Pathology diagnosis	TNM	Grade	Type of tumour
A1						
A2	72	F	Invasive ductal carcinoma	T1c	2	Malignant
A3	71	F	Invasive ductal carcinoma	N/A	2	Malignant
A4	48	F	Invasive ductal carcinoma	T1c N3a MX	3	Malignant
A5	58	F	Invasive ductal carcinoma	T1c N1a MX	3	Malignant
A6						
A7	54	F	Invasive ductal carcinoma	T1c	2	Malignant
A8	72	F	Invasive ductal carcinoma	T1b	2	Malignant
A9	43	F	Invasive breast carcinoma	T3 N2a MX	3	Malignant
A10	46	F	Invasive ductal carcinoma	N/A	3	Malignant
A11	43	F	Invasive breast carcinoma	N/A	3	Malignant
A12						
A13	67	F	Invasive ductal carcinoma	T1b	2	Malignant
A14	49	F	Invasive ductal carcinoma	N/A	3	Malignant
A15	56	F	Invasive ductal carcinoma	T1c N2a MX	3	Malignant
A16	48	F	Metastatic ductal carcinoma	N3a	3	Malignant
A17	51	F	Invasive breast carcinoma	T2 N2a MX	3	Malignant
A18						
B1						
B2	60	F	Invasive ductal carcinoma	T1c N1a MX	2	Malignant
В3	79	F	Invasive ductal carcinoma	N/A	2	Malignant
B4	40	F	Invasive ductal carcinoma	T2 N0 MX	3	Malignant
B5	68	F	Invasive ductal carcinoma	N/A	3	Malignant
B6						
B7	43	F	Invasive ductal carcinoma	T1c	2	Malignant
B8	48	F	Invasive ductal carcinoma	T4b N3a MX	2	Malignant
В9	65	F	Invasive ductal carcinoma	T2 N0 MX	3	Malignant
B10	47	F	Invasive ductal carcinoma	T4b N3a MX	3	Malignant
B11	51	F	Invasive ductal carcinoma	T2/T1c N3a MX	3	Malignant
B12						
B13	42	F	Invasive ductal carcinoma	N/A	2	Malignant
B14	65	F	Invasive ductal carcinoma	T2 N1a MX	3	Malignant
B15	60	F	Invasive ductal carcinoma	N/A	3	Malignant
B16	45	F	Invasive ductal carcinoma	N/A	3	Malignant
B17	36	F	Invasive ductal carcinoma	N/A	2	Malignant
B18						
C1						
C2	68	F	Invasive ductal carcinoma	T2 N3 MX	2	Malignant
C3	71	F	Invasive lobular carcinoma	N/A	2	Malignant
C4	65	F	Invasive breast carcinoma	T2 N1 MX	3	Malignant
C5	55	F	Invasive ductal carcinoma	T2 N3 MX	3	Malignant
C6						
C7	82	F	Invasive ductal carcinoma	T2 N1a MX	2	Malignant
C8	46	F	Invasive ductal carcinoma	N/A	2	Malignant
C9	57	F	Invasive breast carcinoma	T1c	3	Malignant
C10	57	F	Invasive breast carcinoma	N/A	3	Malignant
C11	56	F	Invasive ductal carcinoma	T2 N1a MX	3	Malignant
C12						
C13	36	F	Invasive ductal carcinoma	N/A	2	Malignant
C14	71	F	Invasive breast carcinoma	N/A	3	Malignant
C15	48	F	Lobular carcinoma	T4b N3a MX	3	Malignant

C16	58	F	Invasive ductal carcinoma	N/A	3	Malignant
C17	69	F	Encysted papillary carcinoma	T2	2	Malignant
			and invasive ductal carcinoma			
C18						
D1						
D2	76	F	Invasive ductal carcinoma	N/A	2	Malignant
D3	58	F	Invasive ductal carcinoma	T2 N2 MX	2	Malignant
D4	53	F	Invasive ductal carcinoma	T2 N1 MX	3	Malignant
D5	50	F	Invasive breast carcinoma	N/A	3	Malignant
D6						
D7	62	F	Invasive ductal carcinoma	T4 N0 MX	3	Malignant
D8	63	F	Invasive ductal carcinoma	T2 N3 MX	2	Malignant
D9	48	F	Invasive ductal carcinoma	N/A	3	Malignant
D10	41	F	Invasive ductal carcinoma	T2	3	Malignant
D11	48	F	Invasive breast carcinoma	N/A	3	Malignant
D12						
D13	45	F	Invasive breast carcinoma	T1c N0 MX	3	Malignant
D14	39	F	Invasive ductal carcinoma	T2	2	Malignant
D15	62	F	Invasive ductal carcinoma	T2 N3a MX	3	Malignant
D16	36	F	Invasive breast carcinoma	N/A	3	Malignant
D17	61	F	Invasive ductal carcinoma	T4b N1a MX	3	Malignant
D18						
E1						
E2	69	F	Invasive ductal carcinoma	T4b N2a MX	2	Malignant
E3	52	F	Invasive ductal carcinoma	T2 N0	2	Malignant
E4	43	F	Invasive breast carcinoma	T2 N0 MX	3	Malignant
E5	49	F	Invasive ductal carcinoma	N/A	3	Malignant
E6						
E7	56	F	Invasive ductal carcinoma	T2 N0 MX	1	Malignant
E8	62	F	Invasive ductal carcinoma	T2 N2 MX	2	Malignant
E9	66	F	Invasive ductal carcinoma	N/A	2	Malignant
E10	52	F	Invasive ductal carcinoma	T1c N0 MX	3	Malignant
E11	53	F	Invasive breast carcinoma	N/A	3	Malignant
E12						
E13	56	F	Invasive breast carcinoma	N/A	3	Malignant
E14	50	F	Invasive ductal carcinoma	T1c	2	Malignant
E15	53	F	Invasive ductal carcinoma	T2 N2 MX	3	Malignant
E16	N/A	F	Invasive ductal carcinoma	N/A	N/A	Malignant
E17	67	F	Invasive ductal carcinoma	T1c	2	Malignant
E18	72	F	Invasive ductal carcinoma	N/A	N/A	Malignant
F1						
F2	47	F	Invasive ductal carcinoma	N/A	1	Malignant
F3	49	F	Invasive breast carcinoma	N/A	2	Malignant
F4	58	F	Invasive ductal carcinoma	T1c N3a MX	3	Malignant
F5	81	F	Invasive ductal carcinoma	T1c	3	Malignant
F6						
F7	54	F	Invasive ductal carcinoma	T1c	2	Malignant
F8	61	F	Invasive ductal carcinoma	T2 N0 MX	2	Malignant
F9	63	F	Invasive ductal carcinoma	T2	2	Malignant
F10	41	F	Invasive breast carcinoma	N/A	3	Malignant
F11	56	F	Invasive ductal carcinoma	T1c N1a MX	3	Malignant
F12						
F13	54	F	Invasive ductal carcinoma	N/A	2	Malignant
F14	44	F	Invasive ductal carcinoma	T1c N3a MX	3	Malignant

F15	63	F	Metaplastic carcinosarcoma	T3	3	Malignant		
F16	86	F	Invasive ductal carcinoma	N/A	2	Malignant		
F17	50	F	Invasive breast carcinoma	N/A	3	Malignant		
F18	39	F	Invasive breast carcinoma	T2	3	Malignant		
G1	Marker							
G2	51	F	Invasive lobular carcinoma	T2 N0 MX	1	Malignant		
G3	63	F	Invasive ductal carcinoma	T2 N0 MX	2	Malignant		
G4	64	F	Invasive ductal carcinoma	N/A	2	Malignant		
G5	55	F	Invasive ductal carcinoma	N/A	3	Malignant		
G6				·				
G7	28	F	Invasive ductal carcinoma	T2	3	Malignant		
G8	51	F	Invasive lobular carcinoma	T1c	2	Malignant		
G9	45	F	Invasive ductal carcinoma	T2 N2 MX	2	Malignant		
G10	64	F	Invasive breast carcinoma	T2 N1 MX	3	Malignant		
G11	72	F	Invasive breast carcinoma	T1c N0 MX	3	Malignant		
G12								
G13	42	F	Invasive ductal carcinoma	T2 N0 MX	2	Malignant		
G14	61	F	Invasive ductal carcinoma	N1a	2	Malignant		
G15	53	F	Invasive ductal carcinoma	T1c	2	Malignant		
G16	38	F	Invasive ductal carcinoma	T2 N0 MX	3	Malignant		
G17	38	F	Invasive ductal carcinoma	T2 N1 MX	2	Malignant		
G18	61	F	Invasive ductal carcinoma	T2 N2a MX	3	Malignant		
H1	Marke	er				·		
H2	52	F	Invasive ductal carcinoma	N/A	3	Malignant		
H3	61	F	Invasive ductal carcinoma	N/A	2	Malignant		
H4	79	F	Invasive ductal carcinoma	N/A	3	Malignant		
H5	67	F	Invasive breast carcinoma	T4b N3a MX	3	Malignant		
H6								
H7	61	F	Invasive ductal carcinoma	T2 N1a MX	3	Malignant		
H8	41	F	Invasive ductal carcinoma	N/A	2	Malignant		
H9	42	F	Invasive ductal carcinoma	N/A	2	Malignant		
H10	41	F	Invasive breast carcinoma	T1c N2a MX	3	Malignant		
H11	58	F	Invasive ductal carcinoma	T2 N3a MX	3	Malignant		
H12								
H13	53	F	Invasive ductal carcinoma			Malignant		
H14	53	F	Invasive breast carcinoma	N/A	3	Malignant		
H15	45	F	Invasive ductal carcinoma	T1c N0 MX	3	Malignant		
H16	52	F	DCIS	N/A	N/A	Malignant		
H17	78	F	Invasive ductal carcinoma	T1c N0 MX	2	Malignant		
H18	56	F	Invasive ductal carcinoma	T1b N0 MX	2	Malignant		
l1	Marke	-		1				
12	39	F	DCIS	N/A	N/A	Malignant		
13	46	F	Invasive ductal carcinoma	T2 N1 MX	2	Malignant		
14	53	F	Invasive ductal carcinoma	N/A	2	Malignant		
15	74	F	Invasive breast carcinoma	T2N0MX	3	Malignant		
16								
17	59	F	Invasive breast carcinoma	N/A	3	Malignant		
18	52	F	Invasive ductal carcinoma	T2 N0 MX	2	Malignant		
19	47	F	Invasive ductal carcinoma	T4b N1a MX	2	Malignant		
I10	54	F	Invasive breast carcinoma	N/A	3	Malignant		
l11	60	F	Invasive breast carcinoma	T1c N0 MX	3	Malignant		
I12								
l13	35	F	Invasive ductal carcinoma	T2 N0 MX	3	Malignant		

114	67	F	Invasive lobular carcinoma	T1c	2	Malignant
I15	60	F	Invasive breast carcinoma	T1c N0 MX	3	Malignant
116	60	F	Invasive breast carcinoma	N/A	3	Malignant
l17	45	F	Invasive breast carcinoma	N/A	3	Malignant
118	62	F	Invasive ductal carcinoma	T2 N2a MX	3	Malignant

#### Stage description

The American Joint Committee on Cancer (AJCC) TNM system is the frequently employed breast cancer staging system, and it is based on seven important elements:

- The extent (size) of the tumor (T): How large is the cancer? Has it grown into nearby areas?
- The spread to nearby lymph nodes (N): Has the cancer spread to nearby lymph nodes? If so, how many?
- The spread (metastasis) to distant sites (M): Has the cancer spread to distant organs such as the lungs or liver?
- Grade of the cancer (G): How much do the cancer cells look like normal cells?
  - Estrogen Receptor (ER) status: Does the cancer have the protein called an estrogen receptor?
  - Progesterone Receptor (PR) status: Does the cancer have the protein called a progesterone receptor?
  - HER2 status: Does the cancer make too much of a protein called HER2?

### Tumor (T)

**T1:** Tumour ≤ 20 mm in greatest dimension.

**T1a:** Tumor > 1 mm but  $\le 5$  mm in greatest dimension (round any measurement > 1.0-1.9 mm to 2 mm).

**T1b:** Tumor > 5 mm but ≤ 10 mm in greatest dimension

**T1c:** Tumor > 10 mm but ≤ 20 mm in greatest dimension

**T2:** Tumour > 20 mm but ≤ 50 mm in greatest dimension.

**T3:** Tumour > 50 mm in greatest dimension.

**T4:** Tumor of any size growing into the chest wall or skin. This includes inflammatory breast cancer.

T4a: Extension to chest wall, not including only pectoralis muscle adherence/invasion

**T4b:** Ulceration and/or ipsilateral satellite nodules and/or edema (including peau d'orange) of the skin, which do not meet the criteria for inflammatory carcinoma.

T4c: Both T4a and T4b.

**T4d:** Inflammatory carcinoma.

## Nodes (N)

**NX:** Nearby lymph nodes cannot be assessed.

NO: No regional lymph node metastasis identified histologically.

**N1:** Micrometastases; or metastases in 1-3 axillary lymph nodes and/or in internal mammary nodes; and/or in clinically negative internal mammary nodes with micrometastases or macrometastases by sentinel lymph node biopsy.

N1a: Metastases in 1-3 axillary lymph nodes (at least 1 metastasis > 2.0 mm).

**N1b:** Metastases in ipsilateral internal mammary lymph nodes, excluding ITCs, detected by sentinel lymph node biopsy

N1c: Combination of N1a and N1b

**N2:** Metastases in 4-9 axillary lymph nodes; or positive ipsilateral internal mammary lymph nodes by imaging in the absence of axillary lymph node metastases.

**N2a:** Metastases in 4-9 axillary lymph nodes (at least 1 tumor deposit > 2.0 mm).

**N2b:** Metastases in one or more internal mammary lymph nodes, causing them to become enlarged.

**N3:** Any of the following:

**N3a:** Metastases in  $\geq$  10 axillary lymph nodes (at least 1 tumor deposit > 2.0 mm); or metastases to the infraclavicular (level III axillary lymph) nodes.

**N3b:** Metastases in at least one axillary lymph nodes (at least 1 tumor deposit > 2.0 mm) and has enlarged the internal mammary lymph nodes; or metastases in 4 or more axillary lymph nodes (at least 1 tumor deposit > 2.0 mm) and in the internal mammary lymph nodes on sentinel lymph node biopsy.

**N3c:** Cancer has spread to the lymph nodes above the collarbone (supraclavicular nodes) on the same side of the cancer with at least one area of cancer spread greater than 2 mm.

## Metastasis (M)

MO: No clinical or radiographic evidence of distant metastasis.

**M1**: Any histologically proven metastases in distant organs; or if in non-regional nodes, metastases > 0.2 mm.

Mx: Distant metastasis cannot be assessed.