

## CD74 and intratumoral immune response in breast cancer

### Supplementary Materials

**Supplementary Table S1: Relapse free survival and overall survival univariate log-rank and cox regression analysis for association of clinical parameters and CD74 or MHCII status in all cases**

A. Recurrence free survival		Univariate		Multivariate	
Parameter	Comparison	HR (95% CI)	p-value	HR (95% CI)	p-value
Age at diagnosis (yrs)	> 35 vs ≤ 35	0.46 (0.22–0.92)	<b>0.025</b>	0.47 (0.20–1.10)	0.082
Tumour size (cm)	> 2 cm vs ≤ 2 cm	2.15 (1.42–2.58)	< <b>0.0001</b>	1.99 (1.30–3.04)	<b>0.001</b>
Nodal status	pos vs neg	1.99 (1.52–2.65)	< <b>0.0001</b>	2.07 (1.47–2.92)	<b>0.000</b>
Tumor grade	2 vs 1	1.47 (0.98–2.04)	0.067	0.87 (0.46–1.66)	0.674
	3 vs 1	1.78 (1.23–2.73)	<b>0.013</b>	1.47 (0.93–2.33)	0.102
ER status	pos vs neg	0.44 (0.30–0.53)	< <b>0.0001</b>	0.61 (0.36–1.05)	0.075
PR status	pos vs neg	0.44 (0.33–0.56)	< <b>0.0001</b>	0.59 (0.39–0.89)	<b>0.012</b>
Molecular subtypes	Luminal A vs Basal-like	0.29 (0.17–0.48)	< <b>0.0001</b>	1.63 (0.80–3.36)	0.182
	Luminal B vs Basal-like	0.68 (0.41–1.10)	0.121	1.01 (0.45–2.25)	0.986
	Her2 vs Basal-like	1.20 (0.78–1.85)	0.401	0.49 (0.25–0.95)	<b>0.036</b>
	TNNB <sup>a</sup> vs Basal-like	0.80 (0.47–1.39)	0.444	1.51 (0.75–3.02)	0.248
CD74 expression	high vs low	0.82 (0.61–1.10)	0.175	0.71 (0.47–1.07)	0.105
MHCII expression	high vs low	0.89 (0.52–1.53)	0.691	0.81 (0.52–1.28)	0.375
B. Overall survival		Univariate		Multivariate	
Parameter	Comparison	HR (95% CI)	p-value	HR (95% CI)	p-value
Age at diagnosis (yrs)	> 35 vs ≤ 35	0.46 (0.10–0.93)	<b>0.007</b>	0.61 (0.25–1.51)	0.285
Tumour size (cm)	> 2 cm vs ≤ 2 cm	1.77 (1.19–2.36)	<b>0.003</b>	1.78 (1.13–2.80)	<b>0.012</b>
Nodal status	pos vs neg	1.83 (1.36–2.46)	< <b>0.0001</b>	1.86 (1.29–2.67)	<b>0.001</b>
Tumor grade	2 vs 1	1.52 (0.97–2.16)	0.071	0.71 (0.44–1.14)	0.363
	3 vs 1	2.41 (1.47–3.60)	<b>0.0003</b>	1.38 (0.87–2.21)	0.175
ER status	pos vs neg	0.32 (0.20–0.37)	< <b>0.0001</b>	0.52 (0.29–0.92)	<b>0.025</b>
PR status	pos vs neg	0.36 (0.26–0.47)	< <b>0.0001</b>	0.59 (0.37–0.94)	<b>0.026</b>
Molecular subtypes	Luminal A vs Basal-like	0.24 (0.07–0.20)	< <b>0.0001</b>	1.48 (0.72–3.03)	0.284
	Luminal B vs Basal-like	0.50 (0.30–0.80)	<b>0.005</b>	0.26 (0.13–0.53)	<b>0.000</b>
	Her2 vs Basal-like	0.99 (0.65–1.51)	0.955	0.58 (0.28–1.24)	0.160
	TNNB <sup>a</sup> vs Basal-like	0.74 (0.44–1.27)	0.283	1.21 (0.60–2.43)	0.593
CD74 expression	high vs low	0.82 (0.61–1.13)	0.240	0.71 (0.46–1.10)	0.122
MHCII expression	high vs low	0.85 (0.49–1.51)	0.597	0.83 (0.51–1.33)	0.436

<sup>a</sup>TNNB = Triple Negative Non-basal.

**Supplementary Table S2: A report concerning the source of the biospecimen and data using the BRISQ guidelines [44]**

<p><b>BRISQ Report ID : 40</b></p>
<p><b>Profile</b>            Study Name: CD74            Biobank Name: PWATSON            Datetime Created: 10-Dec-2015 9:09 pm</p>
<p><b>Pre-Acquisition</b>            Biospecimen Type: Tissue (not otherwise specified)            Anatomical Site: breast            Disease Status of Participants: primary cancer specimens from breast cancer patients            Clinical Characteristics Of Participants: invasive breast cancer            Vital State Of Participants: alive            Disease State: outcomes data provided by MBTB bank            Cause of Death: n/a            Agonal State: n/a            Diagnosis: invasive breast cancer            Clinical: primary breast cancer            Pathology: invasive carcinoma, NOS            Time Between Diagnosis And Sampling: typical pathology service times, 0.5–2 hrs            Exposures: none            Reproductive Status: unknown            Patient Demographic Information: female            Accrual Scheme: tumor bank generalized collection scheme....all available breast cancer specimens            Nature Biobanking Institutions: Manitoba Breast Tumor Bank</p>
<p><b>Acquisition</b>            Collection Mechanism : surgical resection specimens            Time From Cessation Blood Flow <i>In Vivo</i> To Biospecimen Excision: unknown            Time From Biospecimen Excision Acquisition To Stabilization: typical pathology service times, 0.5–2 hrs            Temperature Between Biospecimen Excision Acquisition and Stabilization: RT            Collection Container : unknown</p>
<p><b>Stabilization and Preservation</b>            Mechanism of Stabilization: frozen specimens, prior to conversion to FFPE blocks            Type of Long Term Preservation : formalin fixed paraffin embedded            Constitution of Preservative: 10% neutral buffered formalin            Time in Fixative Preservation Solution: unknown            Temperature During Time in Preservation Solution: unknown            Aliquot Volume: n/a            Specimen Size: typical clinical blocks</p>
<p><b>Storage and Handling</b>            Storage Temperature: room temp            Storage Duration: up to 20 yrs            Storage Details: unknown            Type of Storage Container: unknown            Type of Slide: charged glass for IHC            Shipping Parameters: unknown            Shipping Duration: unknown            Type of Transport Container: unknown            Shipping Temperature: room temp            Freeze Thaw Parameters:            Number of Freeze Thaw Cycles: n/a            Duration of Thaw Events: All FFPE blocks created from previously frozen specimens by immersion of frozen aliquot in formalin            Time from Last Thaw to Processing: unknown</p>

**Quality Assurance**

Composition Assessment and Selection: detailed histology composition analysis of section

Gross and Microscopic Review: comprehensive; conducted by a single pathologist

Proximity to Primary Pathology of Interest: tumor central portion

Method of Enrichment for Relevant Component: TMA coring, targeting central region of tumor in block

Details of Enrichment for Relevant Component: n/a

Quality Assurance Measures: n/a

Embedding reagent/medium: unknown

**Supplementary Table S3: Antibodies used for immunohistochemical analysis indicating sources, dilutions used and scoring definitions**

Antibody	Source	Host (clone)	Dilution	Definition of positivity
CD74	Abcam	Mouse monoclonal (LN2)	1:100	$\geq 20$ H score value (intensity 0–3 $\times$ % positive cells)
MHCII	Affinity Bioreagents	Mouse monoclonal (CR3/43)	1:500	$> 1$ (moderate/strong intensity/ $\geq 10\%$ cells)
CD8	Cell Marque	Mouse monoclonal (C8/144B)	1:250	$\geq$ Median (intra-epithelial or intra-stromal cell score)
CD4	Abcam	Rabbit monoclonal (EPR6855)	1:250	$\geq$ Median (intra-epithelial or intra-stromal cell score)
CD68	Spring Biosciences	Rabbit monoclonal (SP251)	1:150	$\geq$ Median (intra-epithelial or intra-stromal cell score)