

Online Resource 1

Strong CD8+ lymphocyte infiltration in combination with expression of HLA class I is associated with better tumor control in breast cancer patients treated with neoadjuvant chemotherapy

Journal: Breast Cancer Research and Treatment

Authors: A.F. de Groot¹, E.J. Blok^{1,2}, A. Charehbili^{1,2}, C.C. Engels², V.T.H.B.M. Smit³, N.G. Dekker-Ensink², H. Putter⁴, E. Meershoek - Klein Kranenbarg², C.J.H. van de Velde², G.J. Liefers², J.W.R. Nortier¹, P.J.K. Kuppen², S.H. van der Burg¹, J.R. Kroep¹

Departments of Medical Oncology¹, Surgery², Pathology³, Statistics⁴, Leiden University Medical Center, Leiden, The Netherlands

Corresponding author: Judith R. Kroep, M.D., Ph.D. (j.r.kroep@lumc.nl)

Online Resource 1 Patient and tumor characteristics of successfully scored patients for each separate immune marker

Parameter		CD8+ CTLs by median (n=160)				FoxP3+ Tregs by median (n=156)				CD68+ TAMs by median (n=163)				HLA class 1 status (n=178)			
		Low (< median)		High (> median)		Low (< median)		High (> median)		Low (< median)		High (> median)		Loss or downregulation		Expression	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Age	<55 years	59	50.0%	59	50.0%	59	51.8%	55	48.2%	64	52.9%	57	47.1%	38	29.0%	93	71.0%
	55-64 years	17	50.0%	17	50.0%	16	47.1%	18	52.9%	15	42.9%	20	57.1%	19	48.7%	20	51.3%
	>64 years	4	50.0%	4	50.0%	3	37.5%	5	62.5%	3	42.9%	4	57.1%	4	50.0%	4	50.0%
HR status	HR- (TNBC)	11	42.3%	15	57.7%	5	19.2%	21	80.8%	12	48.0%	13	52.0%	4	13.8%	25	86.2%
	HR+	69	51.5%	65	48.5%	73	56.2%	57	43.8%	70	50.7%	68	49.3%	57	38.3%	92	61.7%
Clinical tumor stage	cT1/ cT2	43	44.8%	53	55.2%	37	43.0%	49	57.0%	47	48.5%	50	51.5%	26	25.2%	77	74.8%
	cT3/cT4	37	57.8%	27	42.2%	41	58.6%	29	41.4%	35	53.0%	31	47.0%	35	46.7%	40	53.3%
Clinical lymph node stage	cN-	42	56.8%	32	43.2%	43	60.6%	28	39.4%	43	58.1%	31	41.9%	36	42.9%	48	57.1%
	cN+	38	44.2%	48	55.8%	35	41.2%	50	58.8%	39	43.8%	50	56.2%	25	26.6%	69	73.4%
Tumor type	Ductal	52	46.4%	60	53.6%	45	41.7%	63	58.3%	61	53.5%	53	46.5%	35	28.2%	89	71.8%
	Lobular	9	40.9%	13	59.1%	19	73.1%	7	26.9%	9	36.0%	16	64.0%	12	44.4%	15	55.6%
	Other	10	66.7%	5	33.3%	7	70.0%	3	30.0%	7	53.8%	6	46.2%	7	50.0%	7	50.0%
Menopausal status	Pre	45	49.5%	46	50.5%	41	48.8%	43	51.2%	51	57.3%	38	42.7%	31	32.0%	66	68.0%
	Peri	1	20.0%	4	80.0%	2	33.3%	4	66.7%	5	83.3%	1	16.7%	2	28.6%	5	71.4%
	Post	33	53.2%	29	46.8%	34	53.1%	30	46.9%	26	39.4%	40	60.6%	28	38.9%	44	61.1%
Allocated treatment	Chemotherapy + ZA	33	42.3%	45	57.7%	40	50.6%	39	49.4%	36	46.2%	42	53.8%	30	34.9%	56	65.1%
	Chemotherapy only	47	57.3%	35	42.7%	38	49.4%	39	50.6%	46	54.1%	39	45.9%	31	33.7%	61	66.3%

Loss or downregulation of HLA class 1 is defined as <5% of tumor cells staining positive for HCA2 and HC10 (loss), or either HCA2 or HC10 (downregulation).

Expression of HLA class 1 is defined as ≥5% of tumor cells staining positive for HCA2 and HC10. **Bold/underline**: Chi-square or Fisher's exact p-value <0.05. *CTLs*

cytotoxic T-cells, *HR* hormone receptor, *TAMs* tumor-associated macrophages, *TNBC* triple negative breast cancer, *Tregs* regulatory T-cells, *ZA* zoledronic acid