

Supplementary Table S1: Immunohistochemical staining

Antigen	Clone	Distributor	Dilution	Incubation	Detection	Interpretation
p53	DO-7	Agilent	1/200	40 min	ultraView DAB	According to [52]. Strong diffuse nuclear staining in tumor cells: TP53 missense mutation(s) No nuclear staining in tumor cells with heterogeneous moderate/weak staining in benign cells: TP53 ‘null’ mutation Heterogeneous moderate/weak nuclear staining in tumor cells: no TP53 mutation
pRb	358	Novocastra	1/50	60 min	OptiView DAB	pRb present: tumor cell nuclear staining*
CD8	SP16	ThermoFisher Scientific	1/200	60 min	OptiView DAB	CD8+ TILs: with membranous staining*
CD4	SP35	CellMarque	1/50	60 min	ultraView DAB	CD4+ TILs: with membranous staining*
CD20	SP32	CellMarque	1/200	60 min	ultraView DAB	CD20+ TILs: with membranous staining*
FoxP3	SP97	ThermoFisher Scientific	1/100	60 min	ultraView DAB	FoxP3+ TILs: with nuclear staining*
PD-L1	28-8	Abcam	1/50	60 min	OptiView DAB	% of tumor cells with membranous staining* % of immune cells (TILs and macrophages) with membranous staining*

*Legend: ultraView DAB, ultraView Universal DAB Detection Kit (Ventana/Roche, Meylan, France); OptiView DAB, OptiView DAB IHC Detection Kit (Ventana/Roche, Meylan, France); *any intensity; TILs, tumor-infiltrating lymphocytes. All stainings were performed in Benchmark Ultra automates (Ventana/Roche, Meylan, France).*

Supplementary Table S2: Immune-related histological markers

Variable	N	NACT, N = 21 ¹	NACRT, N = 21 ¹	p-value ²
Immuno-phenotype	39			0.8
Inflamed		5 (26%)	7 (35%)	
Excluded		9 (47%)	9 (45%)	
Deserted		5 (26%)	4 (20%)	
Tumor-infiltrating lymphocytes	40			0.5
< 10%		12 (63%)	10 (48%)	
≥10% - <30%		4 (21%)	7 (33%)	
≥30% - <50%		0 (0%)	2 (9.5%)	
≥50%		3 (16%)	2 (9.5%)	
TIL subpopulations (per mm²)				
TIL CD8+	39	399 (235, 1,097)	583 (269, 1,069)	0.6
TIL CD4+	38	1,227 (595, 1,577)	1,255 (855, 2,099)	0.4
TIL FOXP3+	39	234 (95, 445)	331 (140, 562)	0.5
TIL CD20+	39	226 (53, 604)	446 (216, 1,238)	0.2
TIL T lymphocytes	39	1,502 (770, 2,420)	2,011 (1,020, 3,365)	0.4
TIL total lymphocytes	39	1,902 (1,002, 2,819)	2,502 (1,249, 4,603)	0.5
TP53 mutation status	36			>0.9
No mutation		4 (21%)	4 (24%)	
Mutated type null		8 (42%)	6 (35%)	
Mutated type missense		7 (37%)	7 (41%)	
pRb status	36			>0.9
Absent		5 (26%)	4 (24%)	
Present		14 (74%)	13 (76%)	

¹ n (%); Median (IQR)² Fisher's exact test; Wilcoxon rank sum exact test

Legend: NACT: neoadjuvant chemotherapy, NACRT: neoadjuvant chemo-radiotherapy, TIL: tumor-infiltrating lymphocyte.

Supplementary Table S3: Immune-related systemic markers

Variable	N	NACT, N = 21 ¹	NACRT, N = 21 ¹	p-value ²
Leukocyte (G/L)	42	5.80 (4.60, 6.70)	6.60 (5.70, 7.84)	0.2
Neutrophil (G/L)	42	3.06 (2.10, 4.22)	3.94 (2.92, 5.24)	0.11
lymphocyte (G/L)	42	1.70 (1.57, 2.48)	1.83 (1.41, 2.35)	>0.9
Monocyte (G/L)	42	0.48 (0.34, 0.50)	0.50 (0.40, 0.62)	0.2
Platelet (G/L)	42	271 (222, 301)	309 (265, 361)	0.05
Hemoglobin (g/dL)	42	12.90 (12.70, 13.60)	13.40 (12.50, 13.90)	0.5
NLR	42	1.77 (1.02, 2.24)	1.77 (1.22, 3.29)	0.3
PLR	42	149 (109, 186)	201 (125, 211)	0.10
LMR	42	4.00 (3.31, 4.71)	3.55 (3.13, 4.61)	0.4
SII	42	513 (253, 825)	650 (378, 1,018)	0.087

¹ Median (IQR)

² Wilcoxon rank sum test; Wilcoxon rank sum exact test

Legend: LMR: lymphocyte-monocyte, NACT: neoadjuvant chemotherapy, NACRT: neoadjuvant chemo-radiotherapy, NLR: neutrophil-lymphocyte ratio, PLR: platelet-lymphocyte ratio, SII: systemic immune-inflammation index.