

TABLE S6: Associations of TILs and mutated amino acid classes with histological types and with each other in the two study cohorts

TRAINING COHORT					Chi-sq p-value	VALIDATION COHORT					Chi-sq p-value	BOTH COHORTS					Chi-sq p-value
Histo_Classification By TILs 3 scale	<5	5 to 50	>50	total		Histological type By TILs 3 scale	<5	5 to 50	>50	total		Histological type By TILs 3scale	<5	5 to 50	>50	total	
apocrine	0	1	0	1	0.79	comedo	0	1	0	1	<0.001	apocrine	0	1	0	1	0.002
invasive lobular	1	2	0	3		invasive ductal, NST	26	101	10	137		comedo	0	1	0	1	
medullary	0	3	2	5		invasive lobular	5	3	1	9		invasive lobular	6	5	1	12	
medullary-like	0	1	0	1		medullary	0	8	8	16		medullary	0	11	10	21	
metaplastic	1	4	0	5		mixed	2	3	0	5		medullary-like	0	1	0	1	
invasive ductal, NST	16	81	12	109		Other	3	8	0	11		metaplastic	1	4	0	5	
Other	1	5	0	6								invasive ductal, NST	42	182	22	246	
total	19	97	14	130		total	36	124	19	179		mixed	2	3	0	5	
												Other	4	13	0	17	
												total	55	221	33	309	
Histological type By charged	NO	YES	total			Histological type By charged	NO	YES	total			Histological type By charged	NO	YES	total		
apocrine	1	0	1	0.42		comedo	0	1	1	0.014		apocrine	1	0	1	0.004	
invasive lobular	3	0	3			invasive ductal, NST	118	30	148			comedo	0	1	1		
medullary	5	0	5			invasive lobular	6	3	9			invasive lobular	9	3	12		
medullary-like	1	0	1			medullary	15	1	16			medullary	20	1	21		
metaplastic	3	2	5			mixed	2	3	5			medullary-like	1	0	1		
invasive ductal, NST	85	27	112			Other	6	5	11			metaplastic	3	2	5		
Other	3	3	6			total	147	43	190			invasive ductal, NST	203	57	260		
total	101	32	133									mixed	2	3	5		
												Other	9	8	17		
												total	248	75	323		
Histological type By polar	NO	YES	total			Histological type By polar	NO	YES	total			Histological type By polar	NO	YES	total		
apocrine	1	0	1	0.33		comedo	1	0	1	0.35		apocrine	1	0	1	0.32	
invasive lobular	2	1	3			invasive ductal, NST	102	46	148			comedo	1	0	1		
medullary	2	3	5			invasive lobular	6	3	9			invasive lobular	8	4	12		
medullary-like	0	1	1			medullary	14	2	16			medullary	16	5	21		
metaplastic	5	0	5			mixed	5	0	5			medullary-like	0	1	1		
invasive ductal, NST	72	40	112			Other	9	2	11			metaplastic	5	0	5		
Other	3	3	6			total	137	53	190			invasive ductal, NST	174	86	260		
total	85	48	133									mixed	5	0	5		
												Other	12	5	17		
												total	222	101	323		
Histological type By hydrophobic	NO	YES	total			Histological type By hydrophobic	NO	YES	total			Histological type By hydrophobic	NO	YES	total		
apocrine	1	0	1	0.86		comedo	1	0	1	0.95		apocrine	1	0	1	>0.99	
invasive lobular	2	1	3			invasive ductal, NST	123	25	148			comedo	1	0	1		
medullary	3	2	5			invasive lobular	7	2	9			invasive lobular	9	3	12		
medullary-like	1	0	1			medullary	14	2	16			medullary	17	4	21		
metaplastic	4	1	5			mixed	4	1	5			medullary-like	1	0	1		
invasive ductal, NST	90	22	112			Other	10	1	11			metaplastic	4	1	5		
Other	4	2	6			total	159	31	190			invasive ductal, NST	213	47	260		
total	105	28	133									mixed	4	1	5		
												Other	14	3	17		
												total	264	59	323		
charged By TILs 3scale	<5	5 to 50	>50	total		charged By TILs 3scale	<5	5 to 50	>50	total		charged By TILs 3scale	<5	5 to 50	>50	total	
NO	15	70	13	98	0.23	NO	26	96	17	139	0.34	NO	41	166	30	237	0.12
YES	4	27	1	32		YES	10	28	2	40		YES	14	55	3	72	
total	19	97	14	130		total	36	124	19	179		total	55	221	33	309	
polar By TILs 3scale	<5	5 to 50	>50	total		polar By TILs 3scale	<5	5 to 50	>50	total		polar By TILs 3scale	<5	5 to 50	>50	total	
NO	13	61	8	82	0.80	NO	29	84	16	129	0.15	NO	42	145	24	211	0.28
YES	6	36	6	48		YES	7	40	3	50		YES	13	76	9	98	
total	19	97	14	130		total	36	124	19	179		total	55	221	33	309	
hydrophobic By TILs 3scale	<5	5 to 50	>50	total		hydrophobic By TILs 3scale	<5	5 to 50	>50	total		hydrophobic By TILs 3scale	<5	5 to 50	>50	total	
NO	10	84	10	104	0.002	NO	31	100	17	148	0.53	NO	41	184	27	252	0.32
YES	9	13	4	26		YES	5	24	2	31		YES	14	37	6	57	
total	19	97	14	130		total	36	124	19	179		total	55	221	33	309	
MUT amino acid class By TILs 3 scale	<5	5 to 50	>50	total		MUT amino acid class By TILs 3scale	<5	5 to 50	>50	total		MUT amino acid class By TILs 3scale	<5	5 to 50	>50	total	
all	1	0	1	2	0.039	all	0	7	0	7	0.36	all	1	7	1	9	0.34
charged	0	15	0	15		charged	7	13	1	21		charged	7	28	1	36	
charged&polar	2	7	0	9		charged&polar	2	6	1	9		charged&polar	4	13	1	18	
hydro&charged	1	3	0	4		hydro & charged	1	2	0	3		hydro & charged	2	5	0	7	
hydro&polar	1	3	1	5		hydro & polar	2	1	1	4		hydro & polar	3	4	2	9	
hydrophobic	6	7	2	15		hydrophobic	2	14	1	17		hydrophobic	8	21	3	32	
no mutation	4	29	6	39		no mutation	14	36	10	60		no mutation	18	65	16	99	
nonsense	2	5	0	7		nonsense	5	19	4	28		nonsense	7	24	4	35	
polar	2	28	4	34		polar	3	26	1	30		polar	5	54	5	64	
total	19	97	14	130		total	36	124	19	179		total	55	221	33	309	