Supplementary Table S1. Summary of tables, cell markers assessed and methodology

First author, year (ref)	Colon (C) Rectal (R) Colorectal (CR)	Section assessed	Cutoff	Marker assessed	Anti-body	Blind-ing	Membrane or Cytoplasm	Adjustment variables	Sample size	Surv-ival
Tumour infiltrating lymphocytes										
Berntsson 2018 (11)	CR	TMA 1mm	Manual counts of positive TILs (cutoff 10% or ROC for absolute PDCD1)	CD274 PDCD1	Cell Signalling (1:200) Abcam (1:50)	Y		Age, Sex, TNM, tumour grade, VI	557	**OS**
Calik 2019 (22)	CR	Whole	Manual counts TILs (cutoff >5%)	CD274	Master diagnostic (dilutions not specified)	N		Intratumoural CD8, CD8 at IM, CD274 on tumour	157	**DFS**
D'Alterio 2016 (18)	CR	CRLM (whole)	Stromal CD274 (>15% cutoff) TILs PDCD1 (manual counts, uncl. Cutoff)	CD274 PDCD1	Dr Lieping Chen's lab and Spring Bioscience Ventana	Y		Age, sex, number of mets, KRAS, CXCR4, CXCR7, CD274 mRNA	33	**PFS** **CSS**
Droeser 2013 (12)	CR	TMA 0.6mm	Semiquantitative (strong vs low/absent)	PDCD1	R&D systems (dilutions not specified)	Y		Age, sex, T-stage, N-stage, tumour grade, VI, pattern of invasion, MMR status	423	**OS**
Enkhbat 2018 (17)	CR	Whole	>20% T-cells	PDCD1	R&D systems (1:40)	Y		Age, sex, tumour grade, T-stage, TNM (stage III), VI, LI, colonic site (left/right), tumour diameter, PDCD1 tumour	116	**DFS** **OS**
Hecht 2016 (23)	R	Biopsy and TMA 1.6mm	Semiquantitative and percentage max staining cells (median cutoff)	CD274	Cell Signalling (1:100)	Y		Age, sex, T-stage, N-stage, M-stage, TNM, Grade	199	**DFS** **OS**
Ho et al 2019 (24)	CR	TMA (unclear)	Semiquantitative in Stroma and counts in intra-epithelial	CD274	Dako (dilutions not specified)	Y		T-stage, TNM, tumour grade, colonic site, LVSI, MSI, tumour CD274	238	**OS**
Huang 2018 (13)	R	Biopsy	>1% immune cells	PDCD1	Abcam (dilutions not specified)	Y		Age, sex, N-stage, neo-adj response, TRG, cyto-HMGB1	89	**DFS**
Koganemura 2017 (25)	CR	Whole	>5% immune cells	CD274	Spring Bioscience (dilutions not specified)	N		Age, sex, colonic site, tumour grade, CD8, adjuvant therapy, CD274 on tumour	235	**DFS**
Ledys 2018 (31)	CR	Whole liver met	>5% immune cells	CD274	Roche (pre-diluted)	N	Any	Age, sex, adjuvant therapy, KRAS, BRAF, colonic site, CD8, HLA	114	**OS** **PFS**

Lee 2016 (15)	CR	TMA 0.6mm	>1.43 TILs of >1+ staining intensity	PDCD1	Cell Marque (1:1)	N		Data only shown for MSI subgroup. Age, sex, tumour grade, colonic site, T-stage, N-stage, TNM, TIL score, CLR, CD274.	68 (389)	**RFS**
Lee 2017 (26)	CR	TMA 2mm	>5% immune cells	CD274	Cell Signalling (1:50)	N		Age, T-stage, N-stage, M-stage, tumour border, PI, LI, VI, tumour grade	339	**OS**
Lee 2018 (19) (Kyungpook)	C (MSIH)	Whole	Semiquantitative (mod-strong vs weak)	CD274 PDCD1	Abcam (1:100) Cell Marque (1:150)	Y		Age, CEA, tumour grade, TNM, LAG3, IDO1.	89	**DFS** **OS**
Lee 2018 (27) (Bundang)	CR	TMA 2mm	>5% immune cells	CD274	Dako (ready to use)	Y		TNM, LI, VI, PI, CD274 in tumour	336	**DFS** **OS**
Li 2016 (16)	CR	TMA 0.6mm	Immunoreactivity score >4	PDCD1	Abcam (1:100)	Y		Age, Sex, T-stage, N-stage, M-stage	276	**DFS** **OS**
Liu 2018 (29) (ZH)	CR	TMA unclear	Electronic counts +ve TILs (present or absent), essentially >1%	CD274	Abcam (dilutions not specified)	N		Age, colonic site, RAS, VI, PI, immunoscore	60	**OS**
Shao 2017 (33)	R	Whole	Manual, >10% cutoff	CD274	Spring Bioscience (1:100)	Y		Age, sex, T-stage, N-stage, TNM, VI, NI, tumour grade, XRT duration	68	**DFS** **LRFS** **OS**
Wei 2018 (21)	CRC	TMA 0.6mm	Manual, semiquantitative (>1%)	PDCD1	Spring Biosciences (dilutions not specified)	Y		Age, sex, colonic site, T-stage, N-stage, M-stage, tumour grade, NI, VI, CD4/CD8, MSI	383	**DFS** **OS**
Tumour cells										
Berntsson 2018 (11)	CR	TMA 1mm	>1% positive tumour cells	CD274	Cell Signalling (1:200)	Y	Membrane	Age, Sex, TNM, tumour grade, VI	557	**OS**
Calik 2019 (22)	CR	Whole	Manual counts tumour cells (cutoff >5%)	CD274	Master diagnostic (dilutions not specified)	N	Any	Intratumoural CD8, CD8 at IM, CD274 on TILs	157	**DFS**
Chen 2019 (36)	R	Biopsy and TMA 2mm	>5% positive tumour cells	CD274	Abcam (dilutions not specified)	Y	Membrane	Age, N-stage, Clinical response, TRG, CD8 TILs	112	**DFS**
D'Alterio 2016 (18)	CR	CRLM (whole)	Tumour CD274 (>5% cutoff)	CD274	Dr Lieping Chen's lab and Spring Bioscience	Y	Membrane	Age, sex, number of mets, KRAS, CXCR4, CXCR7, CD274 mRNA	33	**PFS** **CSS**
Droeser 2013 (12)	CR	TMA 0.6mm	Semiquantitative (strong vs low/absent)	CD274 CD274	MBL Abcam (dilutions not specified)	Y	Unclear	Age, sex, T-stage, N-stage, tumour grade, VI, pattern of invasion, MMR status	384 + 721	**OS**

Enkhbat 2018 (17)	CR	Whole	>50% tumour cells staining	CD274	Abcam (1:100)	Y	Cytoplasm	Age, sex, differentiation, T-stage, TNM (stage III), VI, LI, colonic site (left/right), tumour diameter, CD274 TILs	116	**DFS OS**
Eriksen 2019 (42)	C	Whole	>5% positive tumour cells	CD274	Ventana (dilutions not specified)	N	Membrane	Age, sex, T-stage, N-stage, M-stage, colonic site, tumour perf, LN yield, PI, VI	572	**RFS OS**
Hamada 2017 (43)	CR	TMA 0.6mm	Semiquantitative (low 0-1 vs high 2-4)	CD274	eBioscience (1:50)	Y	Cytoplasm+ membrane	Age, sex, year of diagnosis, FH, BMI, aspirin/NSAIDs, colonic site, tumour grade, TNM, MSI, etc.	617	**CSS OS**
Hecht 2016 (23)	R	Biopsy and TMA 1.6mm	Semiquantitative and percentage max staining cells (median cutoff)	CD274	Cell Signalling (1:100)	Y	Unclear	Age, sex, T-stage, N-stage, M-stage, TNM, Grade	199	**DFS OS**
Ho et al 2019 (24)	CR	TMA (unclear)	Semiquantitative, weighted histoscore	CD274	Dako (dilutions not specified)	Y	Membrane	T-stage, TNM, tumour grade, colonic site, LVSI, MSI, stromal CD274 and intraepithelial TILs CD274	238	**OS**
Koganemura 2017 (25)	CR	Whole	>5% tumour cells	CD274	Spring Bioscience (dilutions not specified)	N	Any	Age, sex, colonic site, tumour grade, CD8, adjuvant therapy, CD274 on TILs	235	**DFS**
Ledys 2018 (31)	CR	Whole liver met	>5% tumour cells	CD274	Roche (pre-diluted)	N	Any	Age, sex, adjuvant therapy, KRAS, BRAF, colonic site, CD8, HLA	114	**OS PFS**
Lee 2016 (15)	CR	TMA 0.6mm	>1% of 2+ intensity	CD274	Cell Signalling (1:250)	N	Membrane	Data only shown for MSI subgroup. Age, sex, tumour grade, colonic site, T-stage, N-stage, TNM, TIL score, CLR, PDCD1.	68 (389)	**RFS**
Lee 2017 (26)	CR	TMA 2mm	>5% tumour cells	CD274	Cell Signalling (1:50)	N	Membrane	Age, T-stage, N-stage, M-stage, tumour border, PI, LI, VI, tumour grade	339	**OS**
Lee 2018 (19) (Kyungpook)	C (MSIH)	Whole	>5% tumour cells	CD274	Abcam (1:100)	Y	Membrane	Age, CEA, tumour grade, TNM, LAG3, IDO1.	89	**DFS OS**
Lee 2018 (27) (Bundang)	CR	TMA 2mm	>1% immune cells	CD274	Dako (ready to use)	Y	Membrane	TNM, LI, VI, PI, CD274 in tumour	336	**DFS OS**
Li 2016 (16)	CR	TMA 0.6mm	Immunoreactivity score >4	CD274	Abcam (1:50)	Y	Membrane	Age, Sex, T-stage, N-stage, M-stage	276	**DFS OS**
Rosenbaum 2016 (44)	R	TMA 2mm	Manual, >5% TPS	CD274	Cell Signalling (1:200)	Y	Membrane	Age, sex, T-stage, N-stage, CD8, BRAF, KRAS, Medullary, MSI	181	**DSS OS**
Saigusa 2016 (39)	R	Whole	Manual, semiquantitative (staining intensity 2 or 3)	CD274	Lifespan Biosciences (1:100)	Y	Any	Age, sex, T-stage, N-stage, LI, VI, tumour grade, TRG	100	**RFS OS**

Shao 2017 (33)	R	Whole	Manual, >1% cutoff	CD274	Spring Bioscience (1:100)	Y	Any	Age, sex, T-stage, N-stage, TNM, VI, NI, tumour grade, XRT duration	68	**DFS LRFS OS**
Shi 2013 (37)	CR	Whole	Manual, mod-strong vs weak-absent	CD274	Abcam (5mcg/ml)	Y	Any	Age, sex, TNM, colonic site, tumour grade	143	**OS**
Wu 2019 (40)	CR	Whole	Manual, >1% cutoff	CD274	Abcam (1:50)	Y	Membrane	Age, sex, colonic site, tumour grade, tumour size, T-stage, N-stage, M-stage, TNM, A2aR	204	**OS**
Zhu 2015 (41)	CR	Whole	Manual, percentage stained x staining intensity	CD274	Abcam (1:100)	Y	Cytoplasm	Age, Sex, tumour size, colonic site, tumour grade, T-stage, N-stage, M-stage, VI	120	**OS**
Combined scores										
Bae 2018 (45)	CR	TMA 3mm	Manual, >50% positive cells	CD274	AnaSpec (1:400)	N	Unclear	T-stage, N-stage, LI, tumour grade, perinodal extension	175	**DFS OS**
Hecht 2016 (23)	R	Biopsy and TMA 1.6mm	Semiquantitative (low-low for tumour and TILs vs rest)	CD274	Cell Signalling (1:100)	Y	Unclear	Age, sex, T-stage, N-stage, M-stage, TNM, Grade	199	**DFS OS**
Miller 2017 (46)	C	TMA 1mm	Percentage area of tumour or immune cells (median)	CD274	Cell Signalling (1:100)	Y	Any	T-stage, colonic site, tumour grade, mucin, TILs, BRAF, MSI, other markers	118	**OS CSS**
Wei 2018 (21)	CR	TMA 0.6mm	Manual, semiquantitative (>1% on TILs and/or >5% on tumour)	CD274	Spring Biosciences (dilutions not specified)	Y	Membrane	Age, sex, colonic site, T-stage, N-stage, M-stage, tumour grade, NI, VI, CD4/CD8, MSI	383	**DFS OS**

Supplementary Table S2. Assessment of bias of studies included in meta-analysis[a]

First author, year (ref)	Centre	Population well defined (selection bias)	Method of assessment specified (selection bias)	Cutoff defined (selection bias)	Group allocation defined (observer bias)	Blinding (observer bias)	Evaluation by >1 observer (observer bias)	Loss to follow up (attrition bias)	Patient and tumour characteristics (reporting bias)	Follow up defined/ Specified (reporting bias)	Risk of bias[a]	Bias High/ med/ low
Bae 2018 (45)	DMC, South Korea	1	**0**	**1**	**1**	**0**	**0**	**1**	**1**	**1**	**6**	**Low**
Berntsson 2018 (11)	EPIC Study, Sweden	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**	**Low**
Calik 2019 (22)	FUH, Turkey	1	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**8**	**Low**
Chen 2019 (36)	CMUH, Taiwan	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	**8**	**Low**
D'Alterio 2016 (18)	Napoli, Italy	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**	**Low**
Droeser 2013 (12)	UoB, Switzerland	1	**0**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	**7**	**Low**
Enkhbat 2018 (17)	TUH, Japan	1	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**8**	**Low**
Eriksen 2019 (42)	DCCG, Denmark	1	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**8**	**Low**
Hamada 2017 (43)	NHS+HPFS studies, USA	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**	**Low**
Hecht 2016 (23)	UHE, Germany	1	**0**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**7**	**Low**
Ho 2019 (24)	TVGH, Taiwan	0	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**0**	**6**	**Low**
Huang 2018 (13)	CMUH, Taiwan	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	**8**	**Low**
Koganemaru 2017 (25)	TH, Japan	1	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**8**	**Low**
Ledys 2018 (31)	CGFL, France	0	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**7**	**Low**
Lee 2016 (15)	MSK, USA	0	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**1**	**6**	**Low**
Lee 2017[b] (26)	SNUBH, South Korea	1	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**0**	**7**	**Low**
Lee 2018 (19)	KNUCH, South Korea	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**	**Low**
Lee 2018[b] (27)	SNUBH, South Korea	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**	**Low**

Li 2016 (16)	FUSCC, China	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**	**Low**
Liu 2018 (29)	ZH, China	1	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**0**	**6**	**Low**
Miller 2017 (46)	SJoGSH, W. Australia	1	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**8**	**Low**
Rosenbaum 2016 (44)	MGH, USA	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	**8**	**Low**
Saigusa 2016 (39)	MUH, Japan	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**	**Low**
Shao 2017 (33)	FPCH, China	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**	**Low**
Shi 2013 (37)	FAH, China	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**	**Low**
Wei 2018 (21)	SYSUCC, China	1	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**8**	**Low**
Wu 2019 (40)	AHXMU, China	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**	**Low**
Zhu 2015 (41)	TH, China	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**	**Low**

[a]Assessment of bias table score developed from REMARK guidelines[23], total out of 9: scores of 0-3 were considered high risk for bias; scores of 4 or 5, moderate; and scores of 6 and above, low risk.

[b]18 MSIH patients crossover, results given for different antibody

Supplementary Table S3. Summary of current trials including PD-1 inhibitors and concomitant therapy in colorectal cancer, or solid tumours including colorectal cancers.

Trial status	**Trial ID**
Anti-PD-1 alone +- NSAID	
Completed	NCT01876511, NCT00729664, NCT00441337, NCT01772004
Active, no longer recruiting	NCT02460198, NCT02227667, NCT01693562, NCT02908906, NCT02054806.
Recruiting	NCT03638297, NCT04118933, NCT03926338, NCT04157985, NCT03755739, NCT03212404, NCT02628067, NCT03150706, NCT03981146, NCT03867799, NCT03435107, NCT03436563
Not yet recruiting	NCT04051450
Anti-PD-1 + standard chemotherapy	
Completed	
Active, no longer recruiting	NCT03904537, NCT02563002, NCT02860546, NCT03174405, NCT02375672, NCT01633970, NCT03414983, NCT02848443, NCT03563157, NCT02870920, NCT02873195, NCT03050814
Recruiting	NCT03374254, NCT03202758, NCT03186326, NCT02842125, NCT03854799, NCT03608046, NCT02997228, NCT03698461, NCT03299660, NCT03827044, NCT04231552, NCT02948348, NCT03921684, NCT03626922, NCT03984578, NCT03844750, NCT03396926, NCT04008030, NCT03388190, NCT03803553, NCT04068610, NCT03376659, NCT03721653,
Not yet recruiting	NCT04194359, NCT04262687, NCT03985891, NCT04072198,
Anti-PD-1 + VEGF/EGF inhibitor	
Completed	NCT02788279, NCT03081494
Active, no longer recruiting	NCT03797326, NCT03174405, NCT02713373, NCT03271047, NCT02873195
Recruiting	NCT04110093, NCT03946917, NCT03647839, NCT03374254, NCT03977090, NCT03912857, NCT03186326, NCT03239145, NCT04171141, NCT03829436, NCT03851614, NCT03608046, NCT03170960, NCT03698461, NCT03657641, NCT03475004, NCT02298959, NCT04126733, NCT03712943, NCT04030260, NCT03373188, NCT02484404, NCT03376659, NCT03475953, NCT02982694, NCT03555149
Not yet recruiting	NCT04262687

Anti-PD-1 + immune stimulant (e.g. vaccine)	
Completed	NCT02981524, NCT02713529, NCT03241173
Active, no longer recruiting	NCT03531632, NCT02757391, NCT02432963, NCT02600949, NCT03473925, NCT02009449, NCT03152565
Recruiting	NCT03206073, NCT04046445, NCT02842125, NCT02636036, NCT03228667, NCT04060342, NCT03775850, NCT03639714, NCT04171141, NCT03953235, NCT03948763, NCT03970382, NCT03761914, NCT02983045, NCT02834052, NCT03724851, NCT01174121, NCT03311334, NCT03329950, NCT03841110, NCT03547999, NCT04208958, NCT03435640, NCT02963831, NCT03376659, NCT03256344, NCT03866239, NCT03289962
Not yet recruiting	NCT03287427, NCT04166383, NCT04195373, NCT04117087
Anti-PD-1 + other checkpoint inhibitor	
Completed	NCT03361228, NCT03241173, NCT02586987, NCT03007407, NCT03005002
Active, no longer recruiting	NCT03274804, NCT02335918, NCT02959437, NCT03168139, NCT03350126, NCT02060188, NCT02178722, NCT03271047, NCT02327078, NCT02888743, NCT01975831, NCT03122509, NCT02870920, NCT03982173
Recruiting	NCT03250832, NCT03642067, NCT03202758, NCT03206073, NCT04157985, NCT03629756, NCT03639714, NCT03507699, NCT02903914, NCT03454451, NCT03953235, NCT02817633, NCT02947165, NCT03517488, NCT02983045, NCT03549000, NCT03126110, NCT03207867, NCT02554812, NCT03799003, NCT04008030, NCT03104439, NCT03184870, NCT03693846, NCT03101475, NCT02740985, NCT02754856, NCT03026140
Not yet recruiting	NCT04258111, NCT04140526, NCT04117087, NCT04145193
Anti-PD-1 + radiotherapy/physical tumour destruction	
Completed	NCT02298946
Active, no longer recruiting	NCT03259867, NCT02437071, NCT02888743, NCT03122509
Recruiting	NCT04001101, NCT03854799, NCT02837263, NCT02992912, NCT03507699, NCT03299660, NCT03058289, NCT04231552, NCT02948348, NCT03921684, NCT03101475, NCT03927898
Not yet recruiting	NCT04108481

Anti-PD-1 + small molecule/kinase inhibitors	
Completed	NCT02777710, NCT01988896, NCT02788279, NCT02586987, NCT03258398, NCT02876224
Active, no longer recruiting	NCT03332498, NCT03631407, NCT02646748, NCT02851004, NCT03377361
Recruiting	NCT03711058, NCT04000529, NCT03829436, NCT03170960, NCT02972034, NCT03791398, NCT04017650, NCT03735628, NCT03428126, NCT03539822, NCT02983578
Not yet recruiting	NCT03601598, NCT04044430, NCT04294160
Anti-PD-1 + cell cycle/DNA metabolism blockade	
Completed	NCT02260440
Active, no longer recruiting	NCT03993626, NCT02437136, NCT02512172, NCT02811497
Recruiting	NCT02890069, NCT03891953, NCT03667716, NCT03454451, NCT03519412, NCT04122625, NCT04256707, NCT03832621, NCT03190174, NCT02484404
Not yet recruiting	NCT03576963
Anti-PD-1 + other	
Completed	
Active, no longer recruiting	
Recruiting	NCT03785210, NCT04014530, NCT03851614, NCT03872947, NCT03658772, NCT03095781, NCT03800602
Not yet recruiting	NCT04119830

Supplementary table S4. Rectal cancer survival and PDCD1/CD274 expression

PDCD1/CD274 immune cell expression in rectal cancer															
Study	**TMA or Whole section**	**If TMA …**			**Antibodies used**	**Cohort assessed (stage)**	**Measu-rement**	**Cutoff**	**Tumour region**	**Groups (overall or high to low)**	**Significant**	**UV or MV**	**Effect**	**MMR**	**Median follow up**
		How many cores?	**Size of cores**	**Choice of core**											
Disease-free survival (DFS/RFS/PFS)															
Hecht et al 2016	Biopsy				**CD274**: E1L3N, Cell Signalling	I – IV	Manual	Semiquantitative	IE+ST	35 vs 68	Y	UV	+ve	NA	Uncl., 5-years display
	TMA	4	1.6mm	2xCT, 2xIM					IE+ST	78 vs 81	NS				
									IM	63 vs 62	Y	MV	+ve		
Shao et al 2017	Whole				**CD274**: Spring Bioscience (1:100)	II – III	Manual	Semiquantitative (>10%)	Unclear	17 vs 51	NS			NA	32.5 months
Huang et al 2018	Pre-nCRT biopsy				**PDCD1**: ab137132, Abcam	II – III	Manual	Present vs absent	IE	29 vs 60	Y	UV[a]	+ve	NA	3 years
Ogura et al 2018	Biopsy				**CD274**: ab205921, Abcam	II-III (pre/post nCRT)	Manual	Semiquantitative	IE	88 vs 187	NS			NA	57 months
									ST	89 vs 192	NS				
	Whole								ST	139 vs 148	NS				
Overall survival															
Hecht et al 2016	Biopsy				**CD274**: E1L3N, Cell Signalling	I – IV	Manual	Semiquantitative	IE+ST	35 vs 68	NS			NA	Uncl., 5-years display
	TMA	4	1.6mm	2xCT, 2xIM					IE+ST	78 vs 81	NS				
									IM	63 vs 62	NS				
Shao et al 2017	Whole				**CD274**: Spring Bioscience (1:100)	II – III	Manual	Semiquantitative (>10%)	Unclear	17 vs 51	NS			NA	32.5 months
Ogura et al 2018	Biopsy				**CD274**: ab205921, Abcam	II – III (pre/post nCRT)	Manual	Semiquantitative	IE	88 vs 187	NS			NA	57 months
									ST	89 vs 192	NS				
	Whole								ST	139 vs 148	NS				
Zhang et al 2019	Biopsy				**CD274**: GeneTech Biotechn.	II – III	Manual	>5% positive TILs	IE+ST	45 vs 64	NS			NA	42 months
	TMA	Uncl.	1.8mm	Represe						33 vs 76	NS				

				ntative											

PDCD1/CD274 tumour tissue expression in rectal cancer

Study	TMA or Whole section	If TMA …			Antibodies used	Cohort assessed (stage)	Measu-rement	Cutoff	Tumour region	Groups (overall or high to low)	Significant	UV or MV	Effect	MMR	Median follow up
		How many cores?	Size of cores	Choice of core											
Disease-free survival (DFS/RFS/PFS)															
Saigusa et al 2016	Whole				**CD274**: CD274, 27A2, LifeSpan BioSciences	I – IV	Manual	Semiquantitative	Any	36 vs 54	Y	MV	-ve	NA	46 months
Hecht et al 2016	Biopsy				**CD274**: E1L3N, Cell Signalling	I – IV	Manual	Semiquantitative	Membrane	9 vs 93	NS			NA	Uncl., 5-years display
	TMA	4	1.6mm	2xCT, 2xIM					Membrane (CT)	23 vs 107	NS				
									Menbrane (IM)	15 vs 59	NS				
Shao et al 2017	Whole				**CD274**: Spring Bioscience	II – III	Manual	Semiquantitative (>1%)	Any	7 vs 61	NS			NA	32.5 months
Chen et al 2019	Biopsy				**CD274**: ab205921, Abcam	I – III (pre/post nCRT)	Manual	Semiquantitative	Membrane	56 vs 56	Y	MV	+ve	NA	Uncl., 5-years quoted
	TMA	Uncl.	2mm	Repres-entative						61 vs 36	Y	MV	+ve		
Overall survival															
Saigusa et al 2016	Whole				**CD274**: CD274, 27A2, LifeSpan BioSciences	I – IV	Manual	Semiquantitative	Any	36 vs 54	Y	MV	-ve	NA	46 months
Hecht et al 2016	Biopsy				**CD274**: E1L3N, Cell Signalling	I – IV	Manual	Semiquantitative	Unclear	9 vs 93	NS			NA	Uncl., 5-years display
	TMA	4	1.6mm	2xCT, 2xIM					Unclear	23 vs 107	NS				
									Unclear	15 vs 59	NS				

Shao et al 2017	Whole				**CD274**: Spring Bioscience	II – III	Manual	Semiquantitative (>1%)	Any	7 vs 61	NS			NA	32.5 months
Chen et al 2019	Biopsy				**CD274**: ab205921, Abcam	I – III (pre/post nCRT)	Manual	Semiquantitative	Membrane	56 vs 56	Y	UV[b]	+ve	NA	Uncl., 5-years quoted
	TMA	Uncl.	2mm	Repres-entative						61 vs 36	Y	UV[b]	+ve		
Disease-specific survival (DSS/CSS)															
Rosenbaum et al 2016	TMA	2-3	2mm	Repres-entative	**CD274**: E1L3N Cell Signaling Technology	I – IV (post nCRT, MSI-enriched)	Manual	Arbitrary	Membrane	16 vs 162	NS			54 of 178	Uncl., 3-years quoted

PDCD1/CD274 combined tumour tissue and immune cell expression in rectal cancer

Study	**TMA or Whole section**	**If TMA …**			**Antibodies used**	**Cohort assessed (stage)**	**Measu-rement**	**Cutoff**	**Tumour region**	**Groups (overall or high to low)**	**Significant**	**UV or MV**	**Effect**	**MMR**	**Median follow up**
		How many cores?	**Size of cores**	**Choice of core**											
Disease-free survival (DFS/RFS/PFS)															
Hecht et al 2016	Biopsy				**CD274**: E1L3N, Cell Signalling	I – IV	Manual	Semiquantit-ative (Low tumour/TILs vs rest)	Biopsy (uncl. Memb or cyto)	9 vs 93	NS		+ve	NA	Uncl., 5-years display
	TMA	4	1.6mm	2xCT, 2xIM					IT (uncl. Memb or cyto)	23 vs 107	NS				
									IM (uncl. Memb or cyto)	15 vs 59	Y	MV			
Overall survival															
Hecht et al 2016	Biopsy				**CD274**: E1L3N, Cell Signalling	I – IV	Manual	Semiquantit-ative (Low tumour/TILs vs rest)	Biopsy (uncl. Memb or cyto)	9 vs 93	NS		+ve	NA	Uncl., 5-years display
	TMA	4	1.6mm	2xCT, 2xIM					IT (uncl. Memb or cyto)	23 vs 107	NS				
									IM (uncl. Memb or cyto)	15 vs 59	Y	MV			

[a]not independent of HMGB1/Nstage [b]No MV given

Supplementary table S5. Colon cancer survival and PDCD1/CD274 expression

PDCD1/CD274 immune cell expression in colon cancer

Study	TMA or Whole section	If TMA …			Antibodies used	Cohort assessed (stage)	Measu-rement	Cutoff	Tumour region	Groups (overall or high to low)	Significant	UV or MV	Effect	MMR	Median follow up
		How many cores?	Size of cores	Choice of core											
Disease-free survival (DFS/RFS/PFS)															
Lee et al 2018	Whole				**CD274**: CD274, Abcam	I – III (**MSIH**)	Manual	Semiquantitative	Uncl.	56 vs 33	Y	MV	+ve	89 of 89	39 months
					PDCD1: PDCD1, Cell Marque					39 vs 50	NS				
Wyss et al 2019[†]	TMA	6	Uncl.	CT + IM	**CD274**: SP142, Spring Bioscience	I – IV	Manual	Semiquantitative	ST	61 vs 39 vs 27 vs 102	NS			26 of 270	Uncl., 10-months display
Wyss et al 2019[†]	TMA	6	Uncl.	CT + IM	**PDCD1**: NAT105, Cell Marque	I – IV	Manual	Semiquantitative	ST	45 vs 54	Y	UV[a]	+ve	26 of 270	Uncl., 10-months display
Overall survival															
Wyss et al 2019	TMA	6	Uncl.	CT + IM	**CD274**: SP142, Spring Bioscience	I – IV	Manual	Semiquantitative	ST	61 vs 39 vs 27 vs 102	Y	UV[a]	+ve	26 of 270	Uncl., 10-months display

PDCD1/CD274 tumour tissue expression in colon cancer

Study	TMA or Whole section	If TMA …			Antibodies used	Cohort assessed (stage)	Measu-rement	Cutoff	Tumour region	Groups (overall or high to low)	Significant	UV or MV	Effect	MMR	Median follow up
		How many cores?	Size of cores	Choice of core											
Disease-free survival (DFS/RFS/PFS)															
Lee et al 2018	Whole				**CD274**: CD274, Abcam	I – III (**MSIH**)	Manual	Semiquantitative	Membrane	89 overall (2 groups)	NS			89 of 89	39 months

Wyss et al 2019	TMA	6	Uncl.	CT + IM	**CD274**: SP142, Spring Bioscience	I – IV	Manual	Semiquantitative	Membrane	270 overall (2 groups)	NS			26 of 270	Uncl., 10-months display
Eriksen et al 2019	Whole				**CD274:** Ventana	II	Manual	Semiquantitative	Membrane	35 vs 537	NS			172 of 572	6.9 years

PDCD1/CD274 combined tumour tissue and immune cell expression in colon cancer

Study	**TMA or Whole section**	**If TMA …**			**Antibodies used**	**Cohort assessed (stage)**	**Measu-rement**	**Cutoff**	**Tumour region**	**Groups (overall or high to low)**	**Significant**	**UV or MV**	**Effect**	**MMR**	**Median follow up**
		How many cores?	**Size of cores**	**Choice of core**											
Overall survival															
Miller et al 2017	TMA	3	1.0mm	2xCT 1xIM	**CD274**: E1L3N; Cell Signaling (1:100)	III	Manual	Median	IE+ST	60 vs 40	NS			18 of 104	82.5 months
									IM	27 vs 29	NS				
Disease-specific survival (DSS/CSS)															
Miller et al 2017	TMA	3	1.0mm	2xCT 1xIM	**CD274**: E1L3N; Cell Signaling (1:100)	III	Manual	Median	IE+ST	60 vs 40	NS			18 of 104	82.5 months
									IM	27 vs 29	NS				

[a]no MV given[†]Same study, different antibody/marker

Supplementary table S6. Colorectal cancer disease-free survival/recurrence-free survival and PDCD1/CD274 expression

PDCD1/CD274 immune cell expression and disease-/recurrence-free survival in colorectal cancer															
Study	**TMA or Whole section**	**If TMA …**			**Antibodies used**	**Cohort assessed (stage)**	**Measu-rement**	**Cutoff**	**Tumour region**	**Groups (overall or high to low)**	**Significant**	**UV or MV**	**Effect**	**MMR**	**Median follow up**
		How many cores?	**Size of cores**	**Choice of core**											
Lee et al 2016	TMA	3	0.6mm	Random	**PDCD1**: NAT105, Cell Marque	I – IV (all)	Manual	ROC curve	IE+ST	76 vs 316	Y	UV[a]	+ve	68 of 389	55 months
						I – IV (**MSIH**)				34 vs 34	Y	MV	+ve		
Li et al 2016 (FUSCC)	TMA	Uncl.	0.6mm	Random	**PDCD1**: ab137132, Abcam	I – IV	Manual	Arbitrary	IE+ST	106 vs 170	Y	MV	+ve	100 of 276	61 months
Kim et al 2016	TMA	3	2mm	Repres-entative	**CD274**: E1L3N; Cell Signaling	I – IV (**MSIH**)	Manual	Arbitrary	IE+ST	62 vs 146	NS			208 of 208	Uncl., 10-years display
Koganemaru et al 2017	Whole				**CD274**: Spring Bioscience	III	Manual	Arbitrary (>5%)	Unclear	36 vs 199	Y	UV[b]	+ve	NA	52.9 months
Enkhbat et al 2018	Whole				**PDCD1**: AF1086, R&D Systems	II – III	Manual	Arbitrary	ST	39 vs 77	NS		-ve	NA	52 months
Wei et al 2018	TMA	Uncl.	0.6mm	Repres-entative	**PDCD1**: SP269, spring bioscience	I – IV	Manual	Semiquantitative	ST	50 vs 304	NS			97 of 354	72 months
Shibutani et al 2018	Whole				**PDCD1**: NAT105, Abcam	II – III	Manual, in TILs in 5HPFs	ROC curve	IM	58 vs 32	NS			NA	Uncl., 5-years display
Wang et al 2018	TMA	2	1mm	Uncl.	**CD274**: SP142, Spring Bioscience	II – III	Manual	Uncl.	IE+ST	46 vs 208	Y	UV[c]	-ve	NA	42 months
Kollman et al 2018	Met (pulmonary)				**PDCD1**: AF 1086, R&D systems	IV	Manual	Semiquantitative	IE+ST	16 vs 36	NS				30 months

					CD274: E1L3N; Cell Signaling					41 vs 10	NS				
Yomoda et al 2018	Whole				**CD274**: E1L3N; Cell Signaling	II – III	Manual	ROC curve	IE+ST+ IM	12 vs 70	NS			NA	Uncl., 5-years display
Calik et al 2018	Whole				**CD274:** Master Dagnostica	I-IV	Manual	Semiquantitative (>5%)	IE+ST	85 vs 72	Y	MV	+ve	NA	52.7 months
Ledys et al 2018	Met (liver)				**CD274**: Roche (pre-diluted)	IV	Manual	Semiquantitative (>5%)	Uncl.	34 vs 80	NS			NA	2.9 years
Lee et al 2018	TMA	2	2mm	1x CT 1x IM	**CD274**: Dako (ready to use)	I – IV	Manual	Semiquantitative (>5%)	IE+ST	154 vs 179	Y	MV	+ve	18 of 336	52 months

PDCD1/CD274 tumour tissue expression and disease-/recurrence-free survival in colorectal cancer

Study	**TMA or Whole section**	**If TMA …**			**Antibodies used**	**Cohort assessed (stage)**	**Measu-rement**	**Cutoff**	**Tumour region**	**Groups (overall or high to low)**	**Significant**	**UV or MV**	**Effect**	**MMR**	**Median follow up**
		How many cores?	**Size of cores**	**Choice of core**											
Lee et al 2016	TMA	3	0.6mm	Random	**CD274**: E1L3N, Cell Signaling Technology	I – IV (all)	Manual	ROC curve	Cytoplasm	19 vs 375	NS			68 of 389	55 months
						I – IV (**MSIH**)				12 vs 55	Y	MV	-ve		
Li et al 2016 (FUSCC)	TMA	Uncl.	0.6mm	Random	**CD274**: ab174838, Abcam	I – IV	Manual	Arbitrary	Uncl.	138 vs 138	Y	UV[d]	+ve	100 of 276	61 months
Kim et al 2016	TMA	3	2mm	Repres-entative	**CD274**: E1L3N; Cell Signaling	I – IV (**MSIH**)	Manual	Arbitrary	Membranous-to-cytoplasmic	26 vs 182	NS			208 of 208	Uncl., 10-years display
Koganemaru et al 2017	Whole				**CD274**: Spring Bioscience	III	Manual	Arbitrary (>5%)	Any	19 vs 216	Y	MV	-ve	NA	52.9 months
Enkhbat et al 2018	Whole				**CD274**: ab174838, Abcam	II – III	Manual	Arbitrary	Cytoplasm	52 vs 64	Y	UV[e]	-ve	NA	52 months

Kollman et al 2018	Met (pulmonary)				**PDCD1**: AF 1086, R&D systems	IV	Manual	Semiquantitative	Uncl.	35 vs 17	NS			NA	30 months
					CD274: E1L3N; Cell Signaling					36 vs 15	NS				
Calik et al 2018	Whole				**CD274:** Master Dagnostica	I-IV	Manual	Semiquantitative (>5%)	Any	72 vs 85	Y	MV	-ve	NA	52.7 months
Ledys et al 2018	Met (liver)				**CD274**: Roche (pre-diluted)	IV	Manual	Semiquantitative (>5%)	Uncl.	5 vs 109	NS			NA	2.9 years
Lee et al 2018	TMA	2	2mm	1x CT 1x IM	**CD274**: Dako (ready to use)	I – IV	Manual	Semiquantitative (>1%)	Membrane	15 vs 321	Y	MV	-ve	18 of 336	52 months

PDCD1/CD274 combined tumour tissue and immune cell expression and disease-/recurrence-free survival in colorectal cancer

Study	**TMA or Whole section**	**If TMA …**			**Antibodies used**	**Cohort assessed (stage)**	**Measu-rement**	**Cutoff**	**Tumour region**	**Groups (overall or high to low)**	**Significant**	**UV or MV**	**Effect**	**MMR**	**Median follow up**
		How many cores?	**Size of cores**	**Choice of core**											
Wei et al 2018	TMA	Uncl.	0.6mm	Repres-entative	**CD274**: SP142, spring bioscience)	I – IV	Manual	Semiquantitative	ST	162 vs 191	Y	MV	+ve	97 of 354	72 months
Bae et al 2018	TMA	1	3mm	Repres-entative	**CD274:** AnaSpec	I – IV	Manual	50% staining	Uncl	93 vs 82	Y	MV	+ve	NA	88 months

[a]No MV given apart from MMRd subgroup; MMRp tumours alone not significant on UV [b]not independent of tumour CD274/tumour grade/IE CD8 [c]not independent of TNM, p53, Ki67 [d]not independent of age/gender/T-stage/N-stage/M-stage [e]not independent of stage III disease/lymphatic invasion

Supplementary table S7. Colorectal cancer overall survival and PDCD1/CD274 expression

PDCD1/CD274 immune cell expression and overall survival in colorectal cancer															
Study	**TMA or Whole section**	**If TMA …**			**Antibodies used**	**Cohort assessed (stage)**	**Measu-rement**	**Cutoff**	**Tumour region**	**Groups (overall or high to low)**	**Significant**	**UV or MV**	**Effect**	**MMR**	**Median follow up**
		How many cores?	**Size of cores**	**Choice of core**											
Droeser et al 2013	TMA	Uncl.	0.6mm	Repres-entative	**CD274**: 27A2, MBL (monoclonal) and ab82059, Abcam (polyclonal)	I – IV (MMR proficient)	Manual	Uncl.	ST	11 vs 413	Y	UV[a]	+ve	0 of 424	Uncl., >10-years display
Li et al 2016 (FUSCC)	TMA	Uncl.	0.6mm	Random	**PDCD1**: ab137132, Abcam	I – IV	Manual	Arbitrary	IE+ST	106 vs 170	Y	MV	+ve	100 of 276	61 months
Li et al 2016 (TCGA)	TMA	Uncl.	0.6mm	Random	**PDCD1**: ab137132, Abcam	I – IV	Manual	Arbitrary	IE+ST	191 vs 165	Y	UV[b]	+ve	113 of 356	13.4 months
Lee et al 2017	TMA	2	2mm	1x CT 1x IM	**CD274**: Cell Signalling Tech	I – IV (MSIH)	Manual	Semiquantitative	IT+ST	107 vs 79	Y	MV	+ve	186 of 186	Uncl., 8-years display
										102 vs 84	Y	MV	+ve		
Lee et al 2017[†]	TMA	2	2mm	1x CT 1x IM	**CD274**: Cell Signalling Tech	I – IV	Manual	Semiquantitative	IE+ST	47 vs 106	Y	MV	+ve	0 of 153	Uncl., 8-years display
										56 vs 97	Y	MV	+ve		
Enkhbat et al 2018	Whole				**PDCD1**: AF1086, R&D Systems	II – III	Manual	Arbitrary	ST	39 vs 77	Y	UV[c]	-ve	NA	52 months
Wei et al 2018	TMA	Uncl.	0.6mm	Repres-entative	**PDCD1**: SP269, spring bioscience	I – IV	Manual	Semiquantitative	ST	50 vs 304	NS			97 of 354	72 months
Shibutani et al 2018	Whole				**PDCD1**: NAT105, Abcam	II – III	Manual	ROC curve	IM	39 vs 51	NS			NA	Uncl., 5-years display
Yomoda et al 2018	Whole				**CD274**: E1L3N; Cell Signaling	II – III	Manual	ROC curve	IE+ST+IM	12 vs 70	NS			NA	Uncl., 5-years display
Liu et al 2018	Whole				**CD274**: ab205921, Abcam	IV	Electronic (Aperio)	Present or absent	IE+ST	26 vs 34	Y	MV	-ve	NA	Uncl., 30-months display

Kollman et al 2018	Met (pulmonary)				**PDCD1**: AF 1086, R&D systems	IV	Manual	Semiquantitative	IE+ST	16 vs 36	Y	UV[d]	-ve	NA	30 months
					CD274: E1L3N; Cell Signaling					41 vs 10	NS				
Berntsson et al 2018	TMA	Uncl.	1mm	Representative	**PDCD1:** Abcam	I-IV	Manual	Semiquantitative	IE+ST	298 vs 228	Y	UV[e]	+ve	74 of 575	10 years
					CD274: Cell Signalling					297 vs 239	Y	MV	+ve		
Ledys et al 2018	Met (liver)				**CD274**: Roche (pre-diluted)	IV	Manual	Semiquantitative (>5%)	Uncl.	34 vs 80	NS			NA	2.9 years
Lee et al 2018[†]	TMA	2	2mm	1x CT 1x IM	**CD274**: Dako (ready to use)	I – IV	Manual	Semiquantitative (>5%)	IE+ST	154 vs 179	Y	MV	+ve	18 of 336	52 months
Ho et al 2019	TMA	Uncl.	Uncl.	Uncl.	**CD274:** Dako	I-IV	Manual	Present or absent	IE	45 vs 193	Y	UV[f]	+ve	18 of 238	Uncl., 10-years display
								Semiquantitative	Stroma	64 vs 274	Y	MV	+ve		

PDCD1/CD274 tumour tissue expression and overall survival in colorectal cancer

Study	TMA or Whole section	If TMA …			Antibodies used	Cohort assessed (stage)	Measurement	Cutoff	Tumour region	Groups (overall or high to low)	Significant	UV or MV	Effect	MMR	Median follow up
		How many cores?	Size of cores	Choice of core											
Droeser et al 2013 (training)	TMA	Uncl.	0.6mm	Representative	**CD274**: 27A2, MBL (monoclonal) and ab82059, Abcam (polyclonal)	I – IV (MMR proficient)	Manual	Semiquantitative	Cytoplasm	156 vs 228	Y	UV[g]	+ve	0 of 424	Uncl., >10-years display
Droeser et al 2013 (validation)	TMA	Uncl.	0.6mm	Representative	**CD274**: 27A2, MBL (monoclonal) and ab82059, Abcam (polyclonal)	I – IV (MMR proficient)	Manual	Semiquantitative	Cytoplasm	261 vs 460	Y	UV[g]	+ve	0 of 721	Uncl., >10-years display
Shi et al 2013	Whole				**CD274**: Abcam (5mcg/ml)	I – IV	Manual	Semiquantitative	Any	64 vs 79	Y	MV	+ve	NA	43 months
Zhu et al	Whole				**CD274**: Abcam	I – IV	Manual	Arbitrar	Cytoplasm	30 vs 90	Y	UV[h]	-ve	NA	39

2015					(1:100)			y							months
Li et al 2016 (FUSCC)	TMA	Uncl.	0.6mm	Random	**CD274**: ab174838, Abcam	I – IV	Manual	Arbitrary	Uncl.	138 vs 138	Y	UV[j]	+ve	100 of 276	61 months
Li et al 2016 (TCGA)	TMA	Uncl.	0.6mm	Random	**CD274**: ab174838, Abcam	I – IV	Manual	Arbitrary	Uncl.	301 vs 55	Y	UV[k]	+ve	113 of 356	13.4 months
Hamada et al 2017	TMA	2-4	0.6mm	Uncl.	**CD274**: CD274, eBioscience	I – IV	Manual	Semiquantitative	Cytoplasm+ membrane	384 vs 233	NS			108 of 601	11.5 years
Lee et al 2017[†]	TMA	2	2mm	1x CT 1x IM	**CD274**: Cell Signalling Tech	I – IV (MSIH)	Manual	Semiquantitative	Membrane	43 vs 143	NS			186 of 186	Uncl., 8-years display
										47 vs 141	NS				
Enkhbat et al 2018	Whole				**CD274**: ab174838, Abcam	II – III	Manual	Arbitrary	Cytoplasm	52 vs 64	Y	MV	-ve	NA	52 months
Kollman et al 2018	Met (pulmonary)				**PDCD1**: AF 1086, R&D systems	IV	Manual	Semiquantitative	Uncl.	35 vs 17	NS			NA	30 months
					CD274: E1L3N; Cell Signaling					36 vs 15	NS				
Berntsson et al 2018	TMA	Uncl.	1mm	Representative	**PDCD1:** Abcam	I-IV	Manual	Semiquantitative	Membrane	298 vs 228	NS			74 of 575	10 years
Ledys et al 2018	Met (liver)				**CD274**: Roche (pre-diluted)	IV	Manual	Semiquantitative (>5%)	Uncl.	5 vs 109	NS			NA	2.9 years
Lee et al 2018[†]	TMA	2	2mm	1x CT 1x IM	**CD274**: Dako (ready to use)	I – IV	Manual	Semiquantitative (>1%)	IE+ST	15 vs 321	Y	MV	-ve	18 of 336	52 months
Ho et al 2019	TMA	Uncl.	Uncl.	Uncl.	**CD274**: Dako (dilutions not specified)	I – IV	Manual	Weighted histo-score (cutoff 10)	Membrane	13 vs 225	NS			18 of 238	Uncl., 10 years display
Wu et al 2019	Whole				**CD274**: Dako (1:50)	I – IV	Manual	>1% positive	Membrane	84 vs 120	Y	MV		NA	22 months
Chen et al 2020	Whole				**CD274**: Abcam	I – III	Manual	Immunoreactivity score >3	Any	94 vs 31	Y	UV[l]	-ve	NA	Uncl., 5 years display

PDCD1/CD274 combined tumour tissue and immune cell expression and overall survival in colorectal cancer															
Study	**TMA or Whole section**	**If TMA …**			**Antibodies used**	**Cohort assessed (stage)**	**Measu-rement**	**Cutoff**	**Tumour region**	**Groups (overall or high to low)**	**Significant**	**UV or MV**	**Effect**	**MMR**	**Median follow up**
		How many cores?	**Size of cores**	**Choice of core**											
Wei et al 2018	TMA	Uncl.	0.6mm	Repres-entative	**CD274**: SP142, spring bioscience)	I – IV	Manual	Semiquantitative	ST	162 vs 191	Y	UV[m]	+ve	97 of 354	72 months
Bae et al 2018	TMA	1	3mm	Repres-entative	**CD274:** AnaSpec	I – IV	Manual	50% staining	Uncl	93 vs 82	Y	UV[n]	+ve	NA	88 months

[†]18 MSIH patients crossover, different antibody [a]no MV given [b]not independent of T-stage/CEA [d]not independent of CD274 on tumour cells [d]no MV performed. Worse prognosis for high PDCD1 TILs in pulmonary metastasis [e]not independent of age/sex/T-stage/N-stage/M-stage/tumour grade/VI [f]not independent of CD274 in stroma/tumour cells [g]not independent of age/stage/gender/MMR/VI [h]not independent of M-stage [j]not independent of age/gender/T-stage/N-stage/M-stage [k]not independent of T-stage/CEA [l]no MV given [m]not independent of tumour diff/T-stage/N-stage/M-stage/gender [n]not independent of T-stage/perinodal extension

Supplementary table S8. Colorectal cancer-specific survival and PDCD1/CD274 expression

PDCD1/CD274 tumour tissue expression and cancer-specific survival in colorectal cancer															
Study	**TMA or Whole section**	**If TMA …**			**Antibodies used**	**Cohort assessed (stage)**	**Measu-rement**	**Cutoff**	**Tumour region**	**Groups (overall or high to low)**	**Significant**	**UV or MV**	**Effect**	**MMR**	**Median follow up**
		How many cores?	**Size of cores**	**Choice of core**											
Hamada et al 2017	TMA	2-4	0.6mm	Uncl.	**CD274**: CD274, eBioscience	I – IV	Manual	Semiquantitative	Cytoplasm+ membrane	384 vs 233	NS			108 of 601	11.5 years