CORA Cork Open Research Archive
Cartlann Taighde Oscailte Chorcaí

Title	Tumour-associated and non-tumour-associated microbiota in colorectal cancer
Authors	Flemer, Burkhardt;Lynch, Denise B.;Brown, Jillian R. M.;Jeffery, Ian B.;Ryan, Feargal J.;Claesson, Marcus J.;O'Riordain, Micheal G.;Shanahan, Fergus;O'Toole, Paul W.
Publication date	2017
Original Citation	Flemer, B., Lynch, D. B., Brown, J. R. M., Jeffery, I. B., Ryan, F. J., Claesson, M. J., O'Riordain, M., Shanahan, F. and O'Toole, P. W. (2017) 'Tumour-associated and non-tumour-associated microbiota in colorectal cancer', Gut, 66(4), (12pp). doi: 10.1136/gutjnl-2015-309595
Type of publication	Article (peer-reviewed)
Link to publisher's version	http://gut.bmj.com/content/66/4/633 - 10.1136/gutjnl-2015-309595
Rights	© 2016, the Authors. Published by the BMJ Publishing Group Limited. For permission to use (where not already granted under a licence) please go to http://www.bmj.com/company/products-services/rights-and-licensing/. This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/ - https://creativecommons.org/licenses/by-nc/4.0/
Download date	2024-03-28 10:11:06
Item downloaded from	https://hdl.handle.net/10468/5383



University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Supplementary Table 2a: List of primers used for RT-qPCR

target	probe (upl)	direction	sequence	possible mechanism of involvement in CRC or inflammation	reference
CCL20	**39**	**R**	TCAAAGTTGCTTGCTGCTTC	TH17 inducer	Grivennikov *et al.,* 2012
	39	**F**	GCTGCTTTGATGTCAGTGCT		
CD14	**74**	**F**	GTTCGGAAGACTTATCGACCA	Co-receptor of TLR4 (see below)	Grivennikov et al., 2012
	74	**R**	ACAAGGTTCTGGCGTGGT		
CXCL1	**52**	**R**	CTTCAGGAACAGCCACCAGT	Significantly increased expression in colon cancer tissue	Baier *et al.,* 2005
	52	**F**	TCCTGCATCCCCCATAGTTA		
CXCL11	**76**	**F**	AGTGTGAAGGGCATGGCTA	CXCL11 expression could be involved in TH17 development; excess CXCL11 expression reduces cytotoxic	Liu *et al.,* 2011; Berencsi *et al,* 2007
	76	**R**	TCTTTTGAACATGGGGAAGC		
β-Actin	**60**	**R**	GCCCAATACGACCAAATCC	housekeeping gene	Rubie *et al.,* 2005
	60	**F**	AGCCACATCGCTCAGACAC		
IFNγ	**21**	**R**	TTTGGATGCTCTGGTCATCTT	TH1 cell marker	Tosolini *et al.* , 2011
	21	**F**	GGCATTTTGAAGAATTGGAAA		
IL10	**30**	**R**	CCTTGCTCTTGTTTTCACAGG	Inflammation, local microbe densities, and polyp growth are suppressed by IL-10 derived specifically from T cells	Dennis *et al.,* 2013
	30	**F**	TGGGGGAGAACCTGAAGAC		
IL17a	**8**	**R**	GGATTTCGTGGGATTGTGAT	TH17 cell marker	Tosolini et al., 2011
	8	**F**	TGGGAAGACGTCATTGGTGT		
IL1b	**78**	**R**	TCTTTGGGTAATTTTTGGGATCT	Macrophage-derived IL-1β promotes CRC cell growth	Kaler *et al.,* 2009
	78	**F**	TACCTGTCCTGCGRGRRGAA		
IL23	**76**	**R**	TCCTTTGCAAGCAGAACTGA	TH17 inducer	Grivennikov et al., 2012
	76	**F**	GTTCCCCATATCCAGTGTGG		
IL6	**40**	**R**	CTGCAGCCACTGGTTCTGT	Has been related to decreased survival, advanced disease state. Effects mediated through janus kinase and STAT3	Waldner *et al.,* 2006
	40	**F**	GATGAGTACAAAAGTCCTGATCCA		
IL8	**72**	**R**	CACAGTGAGATGGTTCCTTCC	Significantly increased expression in colon cancer tissue	Baier *et al.,* 2005
	72	**F**	AGACAGCAGAGCACACAAGC		
MMP13	**73**	**R**	AAAAACAGCTCCGCATCAAC	Significantly increased expression in colon cancer tissue and associated with poor CRC prognosis	Yang *et al.,* 2012
	73	**F**	CCAGTCTCCGAGGAGAAACA		
Myc	**75**	**R**	TTCCTGTTGGTGAAGCTAACG	Increased inindividuals with CRC and associated with tumorigenesis through Wnt/APC/βCatenin signaling axis	Dang 1999
	75	**F**	TTCGGGTAGTGGAAAACCAG		
REG4	**73**	**R**	GGCTCCGTTTCCGTAAGACT	Increased expression in individuals with CRC and a mitogenic, motility and pro-invasive factor for colon cancer	Rafa *et al.,* 2010
	73	**F**	CACAAGTCCAATTGCTATGGTT		
SERP1	**15**	**R**	GCTGGAGACATCTGCATCCT	Significantly increased in CRC tissue and potential biomarker of tumor aggressiveness	Mazzoccoli *et al.,* 2011
	15	**F**	TCCAGCAGCTGAATTCCTG		
STAT3	**18**	**R**	CATGTCAAAGGTGAGGGACTC	Inducing cell proliferation	
	18	**F**	CCCCGCACTTTAGATTCATT		
TLR2	**82**	**R**	CTAGGTAGGACAGAGAATGCCTTT	TLRs could be involved in CRC through activation of myeloid cells which then activate TH17 cells which in turn increase cancer cell proliferation through triggering STAT3 expression	Grivennikov et al., 2012
	82	**F**	TGTCATTCTTTCTTCCTGCTAAGA		
TLR4	**10**	**R**	TTCAGCTCCATGCATTGATAA		
	10	**F**	CCTGCGTGAGACCAGAAAG		

Supplementary Table 2b: Wilcoxon-rank sum test with continuity correction

	p-adjust	mean expression CRC	mean expression controls	sd CRC	sd controls
CCL20	0.050	25.1734983	5.3204758	38.83445	6.3578
CD14	1.07E-04	0.64646417	1.3023788	0.592908	0.956126
CXCL1	3.72E-04	26.703115	6.9421052	33.43667	12.35097
CXCL11	3.72E-04	8.20976953	2.3409985	10.18019	4.094112
IFNG	0.968	4.62479698	4.5867479	12.2017	6.915007
IL10	0.363	1.40363664	6.0629057	1.226791	20.0329
IL17a	0.006	5.1884163	1.3982167	7.490777	1.713165
IL1b	0.001	23.9048551	5.9482152	34.07849	10.4968
IL23	0.002	7.6003415	2.7902735	14.69454	7.922824
IL6	2.70E-06	14.8968994	1.2509241	19.57847	1.521975
IL8	3.08E-09	374.16944	4.103645	740.6632	6.30044
MMP13	8.83E-05	29.0222005	0.7653261	79.65084	1.219468
MyC	0.048	7.24616887	3.8419122	8.449968	6.23208
REG4	1.72E-04	19.7420971	4.3582244	20.65816	4.270254
SERP1	3.54E-07	42.4011023	11.488337	55.85466	45.87042
STAT3	0.456	2.23459284	3.0462783	1.72996	2.70914
TLR2	0.114	5.46557997	4.3430354	5.8146	7.165339
TLR4	0.502	2.30684746	2.0214625	1.774594	1.653672