



**Supplementary Table 1**

**Mutation Profiles of CTMM CRC cell lines.**

The mutation status of 17 CTMM cell lines for the twenty most commonly somatically altered genes in human CRC (COSMIC Database, <http://cancer.sanger.ac.uk>) is given. The presence of a somatic mutation is indicated by a red bar. Whole exome sequencing analysis was performed for PDX-1 through 4, Caco-2 and HT15. PDX-3 and PDX-4 were previously described as CCIC-1 and CCIC-2<sup>7</sup>. For the other cell lines, mutation status was previously described in the Cancer Cell Line Encyclopedia (<http://www.broadinstitute.org/software/cprg/?q=node/11>). Cell lines were classified as MSI, microsatellite instability; MSS, microsatellite stable; Mucinous, mucinous adenocarcinoma histopathology; CIMP, CpG Island Methylator Phenotype; CIN, chromosomal instability pathway.

Cells	Mice #	Mean progression (Week)	GI tumor incidence (%)	GI tumor Locations	Mean GI tumor /mouse
Parental HT-15	9	7.8	0	NA	0
CCR9 HT-15	9	6.5	67%	small intestine, Colon	2.3 ± 0.17 *
Parental HT-29	8	7.7	37%	small intestine	0.3 ± 0.17
CCR9 HT-29	8	5.8	100%	small intestine, Colon	3.7 ± 0.34 *
Parental HCA7	8	7.6	0	NA	0
CCR9 HCA7	8	5.9	63%	small intestine, colon	3.8 ± 0.28 *
Parental HCT116	8	5.7	0	NA	0
CCR9 HCT116	8	5.2	75%	small intestine, colon	3.6 ± 0.30 *
Parental SW620	8	6.6	0	NA	0
CCR9SW620	8	5.3	75%	small intestine, colon	3.6 ± 0.38 *
Parental SW480	8	7.1	0	NA	0
CCR9 SW480	8	6.5	88%	small intestine, colon	3.1 ± 0.28 *
Parental SW48	8	7.4	0	NA	0
CCR9 SW48	8	6.0	50%	small intestine	2.0 ± 0.27 *
Parental Caco-2	8	9.2	0	NA	0
CCR9 Caco-2	8	7.5	38%	small intestine, colon	1.7 ± 0.19
Parental Colo205	8	7.2	0	NA	0
CCR9 Colo205	8	5.8	75%	small intestine, colon	3.0 ± 0.33 *
Parental DLD1	8	8.2	0	NA	0
CCR9 DLD1	8	5.7	88%	small intestine, colon	3.7 ± 0.33 *
Parental LoVo	8	6.6	0	NA	0
CCR9 LoVo	8	5.1	100%	small intestine, colon	4.3 ± 0.37 *
Parental LS174T	8	7.8	0	NA	0
CCR9 LS174T	8	6.1	88%	small intestine, colon	3.6 ± 0.26 *
Parental RKO	8	5.8	0	NA	0
CCR9 RKO	8	6.7	25%	small intestine	1.5 ± 0.71
Parental PDX-1	8	8.2	0	NA	0
CCR9 PDX-1	8	6.3	88%	small intestine, colon	4.3 ± 0.31 *
Parental PDX-2	9	9.2	0	NA	0
CCR9 PDX-2	9	6.8	56%	small intestine, colon	2.4 ± 0.38 *
Parental CT26	10	7.1	0	NA	0
CCR9 CT26	12	6.5	75%	small intestine, colon	3.6 ± 0.58 *

**Supplementary Table 2**

**Inducible CCR9+ CRCs form orthotopic xenograft tumors in mouse intestine.**

Colorectal and small intestine tumors formed in mice injected with cells infected with CCR9+ vector or backbone control vector by tail vein. Asterisks denote statistically significant differences between CCR9+ and control groups. \* P < 0.01 compared to parental control groups by 2-sided MW test.

Cells	HT15	HT-29	HCA7	HCT116	SW620	SW480	SW48	Caco-2	Colo205	DLD1	LoVo	LS174T	RKO	PDX-1	PDX-2	CT26	All lines
<b>statistics tests</b>																	
<b>(Fig. 1 A. Colon tumor: control VS CCR9+)</b>																	
Name of Statistics test	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	Paired t-test
P values	0.038	0.017	0.038	0.015	0.016	0.016	0.076	0.085	0.016	0.038	0.006	0.015	0.191	0.038	0.017	0.007	0.0001
<b>(Supplementary Table 2. GI tumor: control VS CCR9+)</b>																	
Name of Statistics test	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	Paired t-test
P values	0.005	0.007	0.013	0.004	0.004	0.001	0.032	0.076	0.004	0.001	0.0004	0.001	0.171	0.001	0.014	0.001	0.0001
<b>(Supplementary Fig. 1 C migration: control VS CCR9+)</b>																	
Name of Statistics test	t-test	t-test	t-test	t-test	t-test	t-test	t-test	t-test	t-test	t-test	t-test	t-test	t-test	t-test	t-test	t-test	t-test
P values	0.01	0.006	0.026	0.01	0.011	0.01	0.018	0.006	0.004	0.003	0.007	0.03	0.009	0.007	0.017	0.02	0.001
<b>Cells</b>																	
<b>statistic tests</b>																	
<b>(Fig. 3D Liver tumor # : control VS CCR9+)</b>																	
Name of Statistics test																	t-test
P values																	0.001
<b>(Fig. 3E tumor progress time: GI VS liver)</b>																	
Name of Statistics test																	t-test
P values																	0.001
<b>(Supplementary Fig. 8A liver tumor #: CCR9 on VS CCR9 off)</b>																	
Name of Statistics test																	t-test
P values																	0.001
<b>Supplementary Table 3</b>																	
<b>Statistics Tests and P values in Figures</b>																	