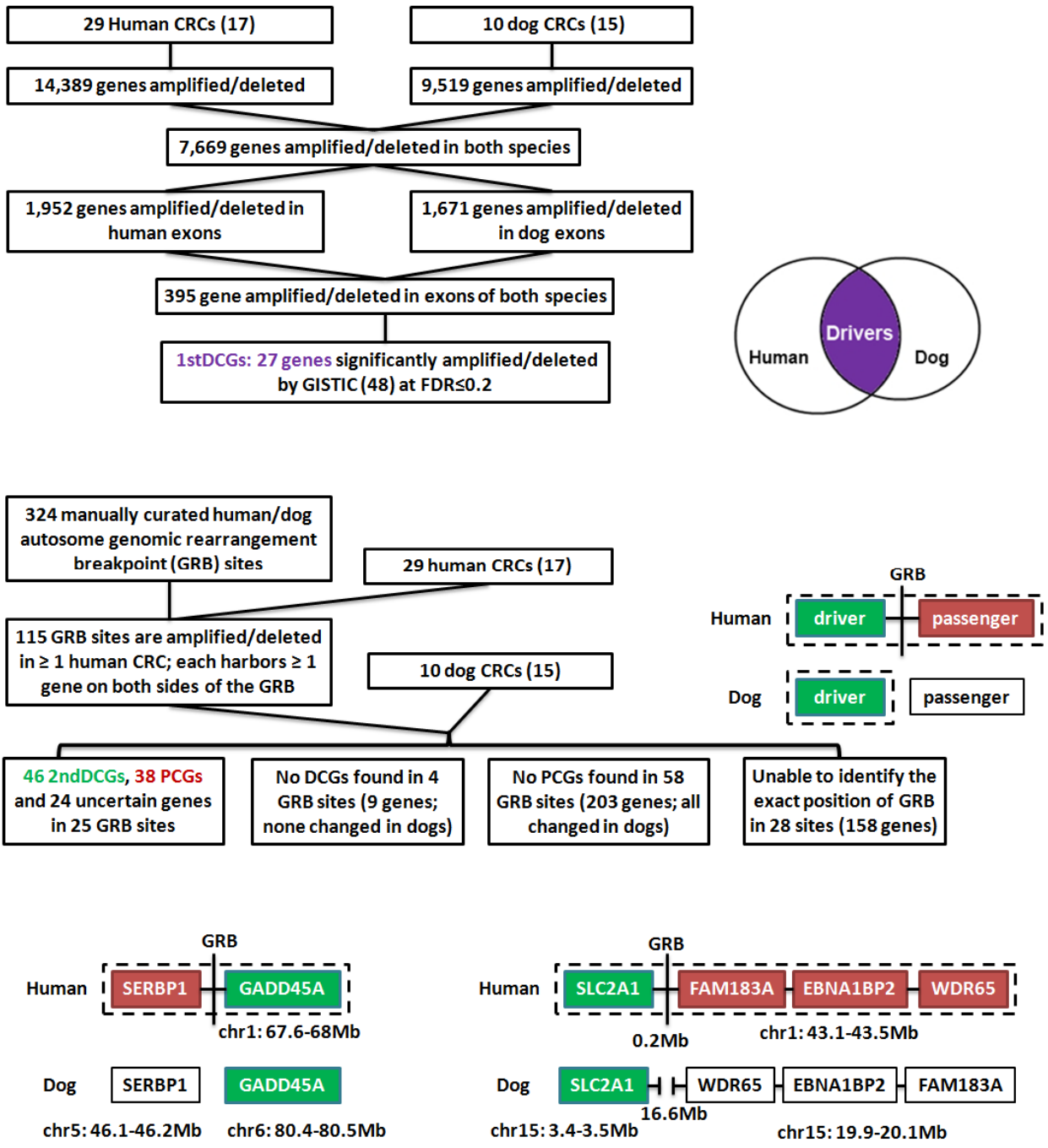


Fig. s1. CRC DCG-PCG distinction via human-dog comparison.

p values of expression change				
	0hr vs 24hr Taxol		24hr vs 48hr Taxol	
	Amplification	Deletion	Amplification	Deletion
1stDCGs	0.120	0.019 ↓	0.424	0.052 ↑
2ndDCGs	0.191	0.026 ↓	0.326	0.122
PCGs	0.243	0.396	0.535	0.545

Fig. s2. mRNA expression changes of DCGs and PCGs, separating based on their amplification or deletion status in human CRCs (Supplementary Table s1), in responding to Taxol-treatment.

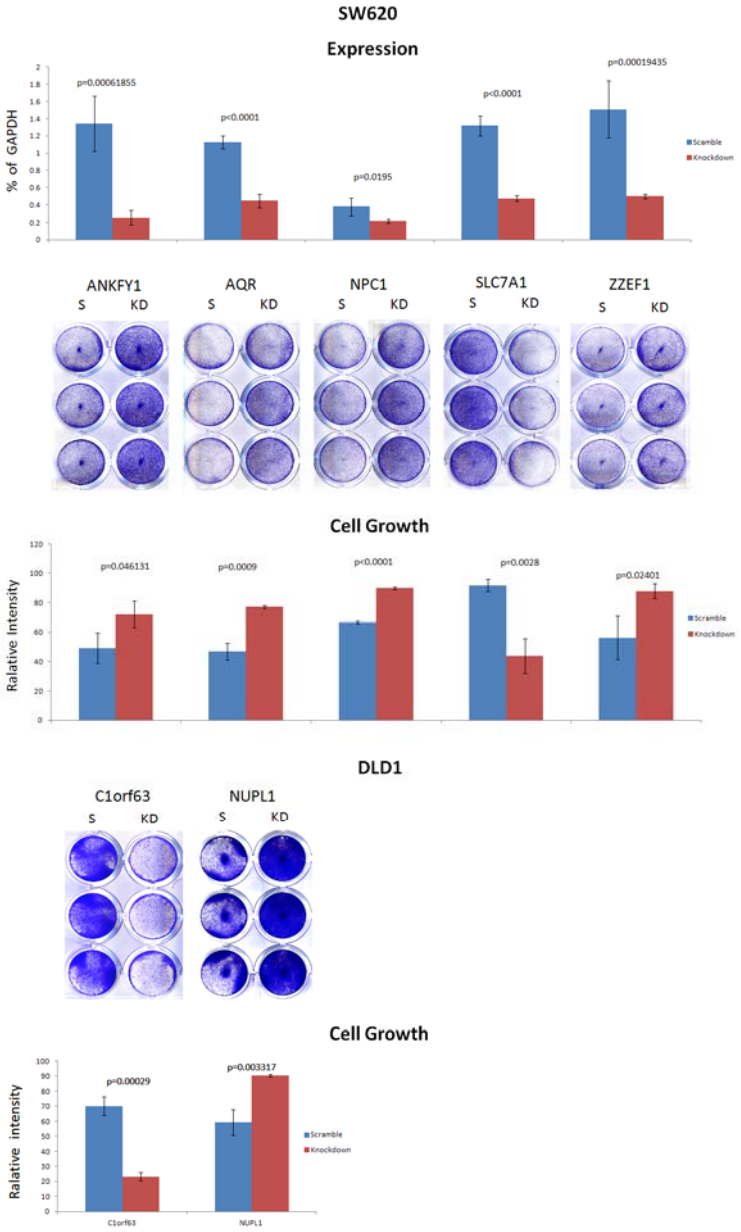


Fig. s3a. siRNA knockdown of the DCGs shown promotes or inhibits the growth of SW620 cells (top) and DLD1 cells (bottom).

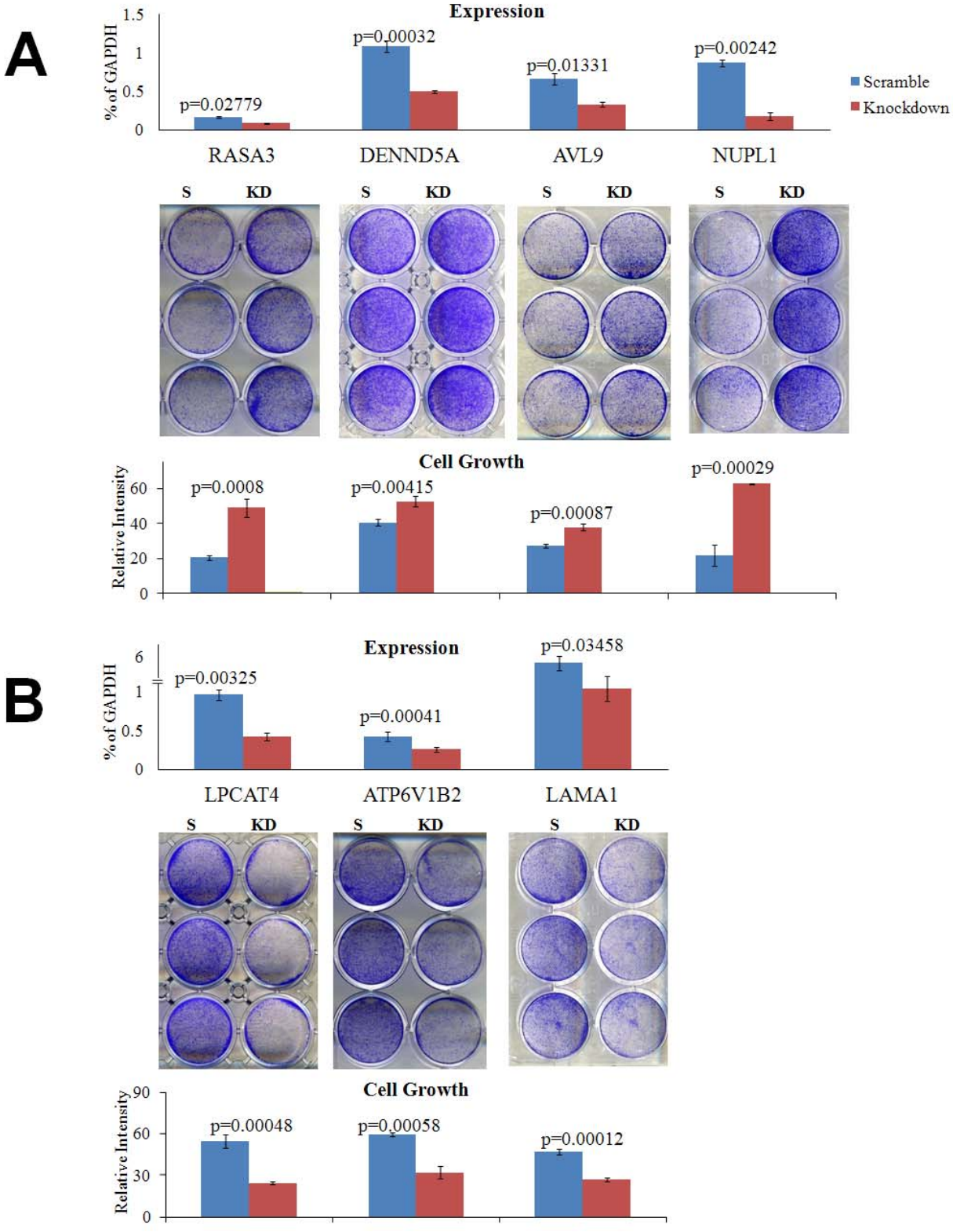
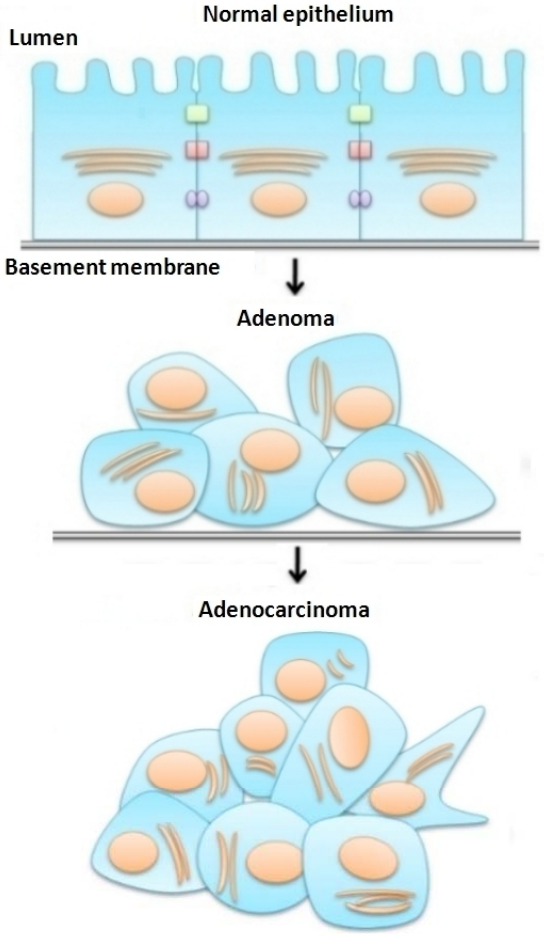


Fig. s3b. siRNA knockdown of the DCGs shown promotes or inhibits the growth of HeLa Cells.



Known polarity genes

APC , MPP7, ARHGEF7, LAMA1, PCDH9, FREM2, KIFAP3, DLGAP2, RAP1A, SLC12A6, SLC2A1, ACTC1, ATP6V1B2, ENPP1

MET/EMT genes

EFNB2 , EYA2

Genes located in polarized membrane

Apical: *ATP6V1B2, MUC16*
Tight junction: *APC, MPP7*
Adherent juction: *ARHGEF7*
Basolateral: *ENPP1 , SLC12A6, SLC2A1*
Basement: *FREM2, LAMA1*

Adhesion/motility

Cell-cell adhesion	Cell-substratum adhesion	Signaling for adhesion	Cytoskeleton
PCDH9	*LAMA1*	*APC*	*PHACTR3*
CSMD3	*FREM2*	*MPP7*	*MYCBP2*
EFHA2?	*FNDC3A*	*ARHGEF7*	*KIFAP3*
C9orf93?	*PTPRD?*	*DLGAP2*	*SYNPO2L*
CSMD2	*EPDR1*	*RAP1A*	*MYOZ1*
GJD2	*TMPRSS11B*	*SFRP4*	*ACTC1*
MUC16	*TMPRSS11F*	*ARHGAP11A*	*GADD45A*
	AKR1B1?		*DDX20*
	AKR1B10?		*ZZEF1?*
	AKR1B15?		*ACTL9?*
	TXNDC3?		
	CTGF		
	CHIA		
	PRSS33?		

Known cancer drivers

APC
PTPRD
GADD45A
SLC2A1
ADORA3
EZH2
MUC16

Cell proliferation/ death

APC
ARHGEF7
KIFAP3
LAMA1
CHRNA7
CUL1
CUL3
ANKFY1
AQR
LPCAT4
DIDO1
EYA2
NPC1
ENPP1
ACTC1
DDX20
GADD45A
SGMS1
ZZEF1
ATP6V1B2
DENND5A
NUPL1
SLC7A1
MMD2
RASA3
AVL9
ASAH2B
CTGF
SERBP1

Cell cycle

APC
MYCBP2
C1orf63
CUL1
CUL3
GADD45A
ZZEF1

Polarized trafficking/transport

Transport	Trafficking	Signaling for trafficking
SLC7A1	*NPC1*	*DENND5A*
NUPL1	*TM9SF4?*	*ENPP1*
XKR9?	*AVL9*	*ADORA3*
SLC2A1	*MLANA*	*AGAP5*
SLC12A6	*ANKFY1?*	*RASA3*
SLC18A1	*SGMS1?*	*SCG5*
KCND3	*GOLGA8A*	
KCTD5	*GOLGA8B*	
ATP6V1B2	*SEC24C*	
CHRNA7		
ATP2A3?		

Other functions

Transcription regulation	Protein ubiquitination & degradation	Glucose/lipid/RNA/other metabolisms	Signaling	Unknown
DIDO1, EYA2, ZBTB20, DDX20, EZH2, ZNF558, PHC2, RBAK, TCEB2, ZNF362, ZNF786, ZNF828, ZSCAN20	*MAN1B1, MYCBP2, CUL1, CUL3, PDIA4, TXNDC3, UBE2G1, ZZEF1, DNAJA2, ERMP1, PRSS33*	*ZBTB20?, SLC2A1, ENPP1, GPT2, AKR1B1, AKR1B10, AKR1B15, BPGM LPCAT4, SGMS1, ASAH2B AQR, INTS10, SERBP1, SRRM2, YTHDC1 TARSL2*	*PHACTR3, PTPRD, ADORA3, GADD45A, MMD2, GPR141, OR2Z1, OR4F15, OR4F6, SCG5*	*C1orf63, C1orf162, FAM7A2, BMS1P4, FAM124B, FAM183A, KIAA1432, LOC441208, TRIM62?, WDR65*

Fig. s4. DCGs (but not PCGs) are enriched in functions associated with epithelial cell polarity establishment and maintenance, and many DCGs participate in cell proliferation/death and/or cell cycle control. All genes are shown here.