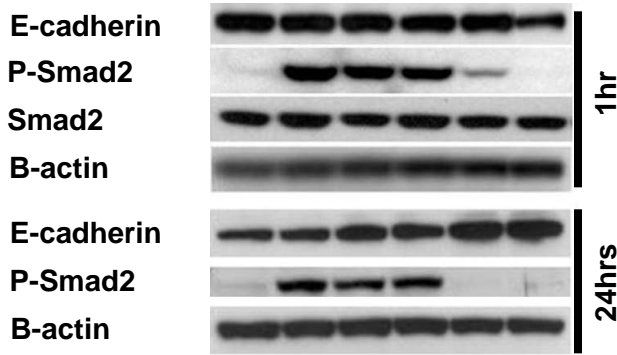


Supplementary Figure S1: T β RI/II blockade inhibits and reverses squamous carcinoma EMT *in vitro*.

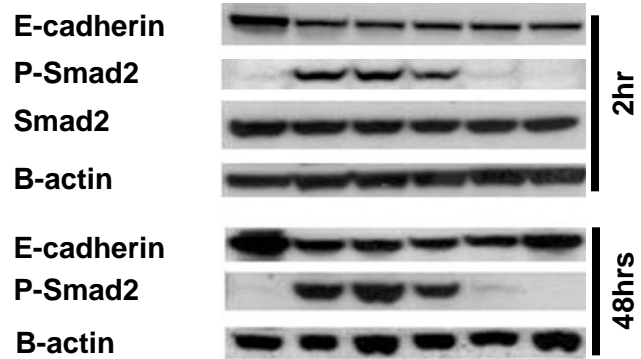
A Squamous E4 cells

TGF β 1	-	+	+	+	+	+
DMSO	-	-	+			
LY2109761 (μ M)	-	-	-	0.2	2	20

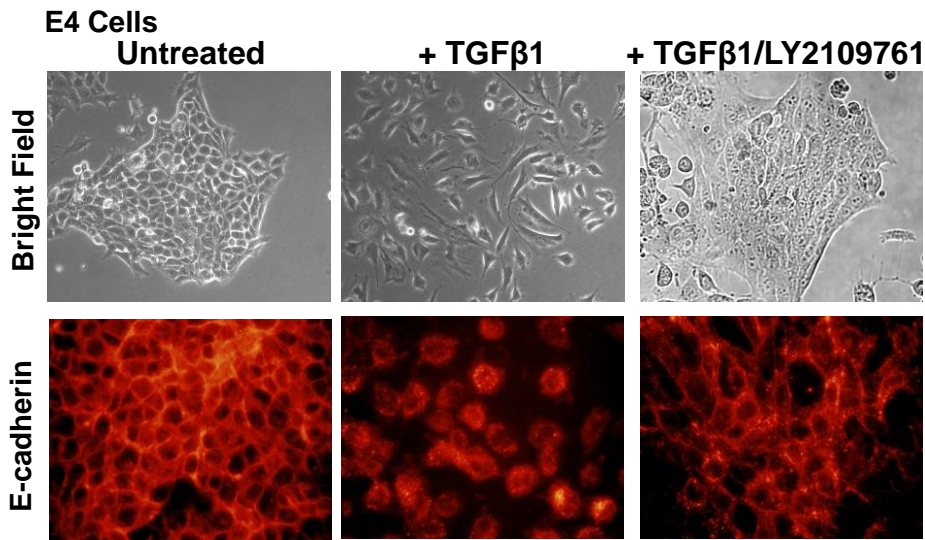


B TGF β -induced spindle E4 cells

TGF β 1	-	+	+	+	+	+
DMSO	-	-	+			
LY2109761 (μ M)	-	-	-	0.2	2	20

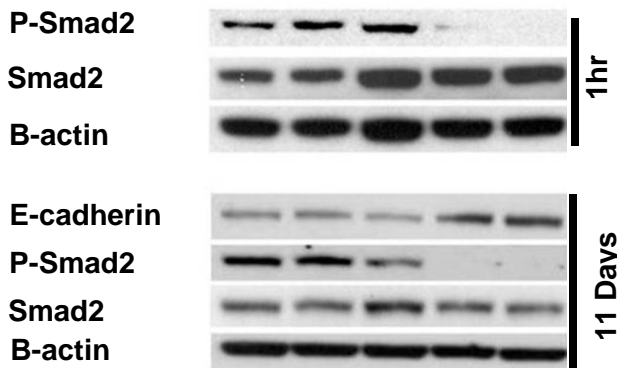


C



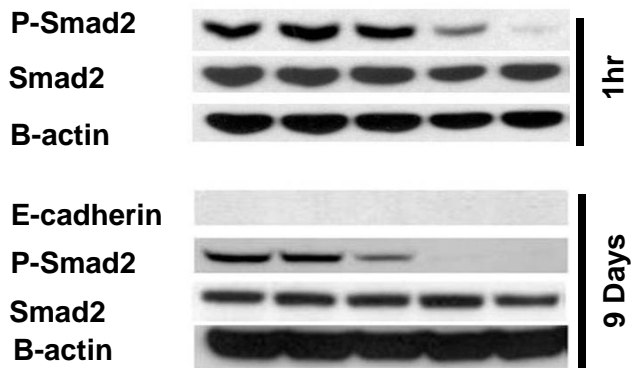
D D3 Cells

DMSO	-	+			
LY2109761 (μ M)	-	-	0.2	2	20



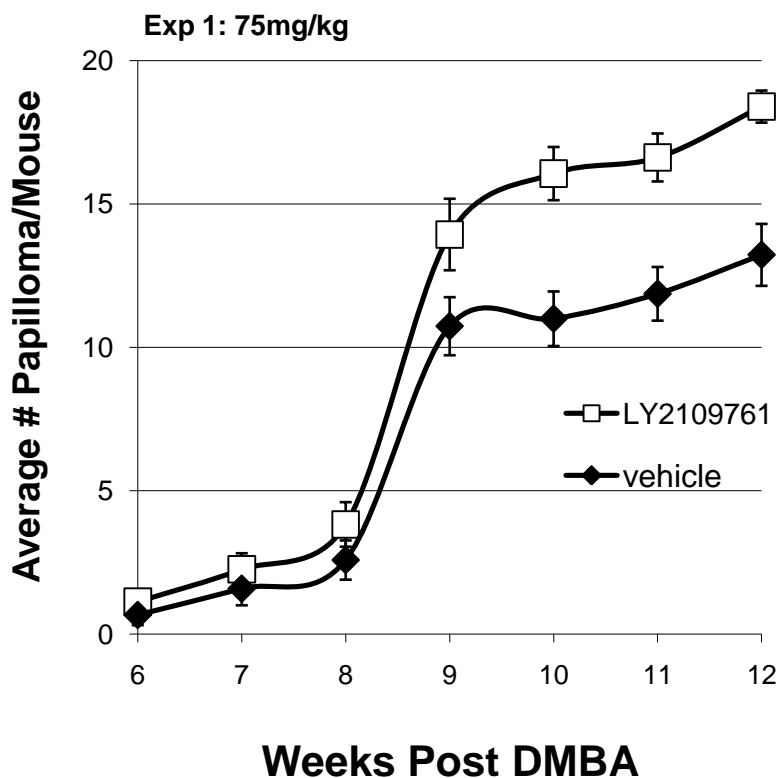
E H11 Cells

DMSO	-	+			
LY2109761 (μ M)	-	-	0.2	2	20

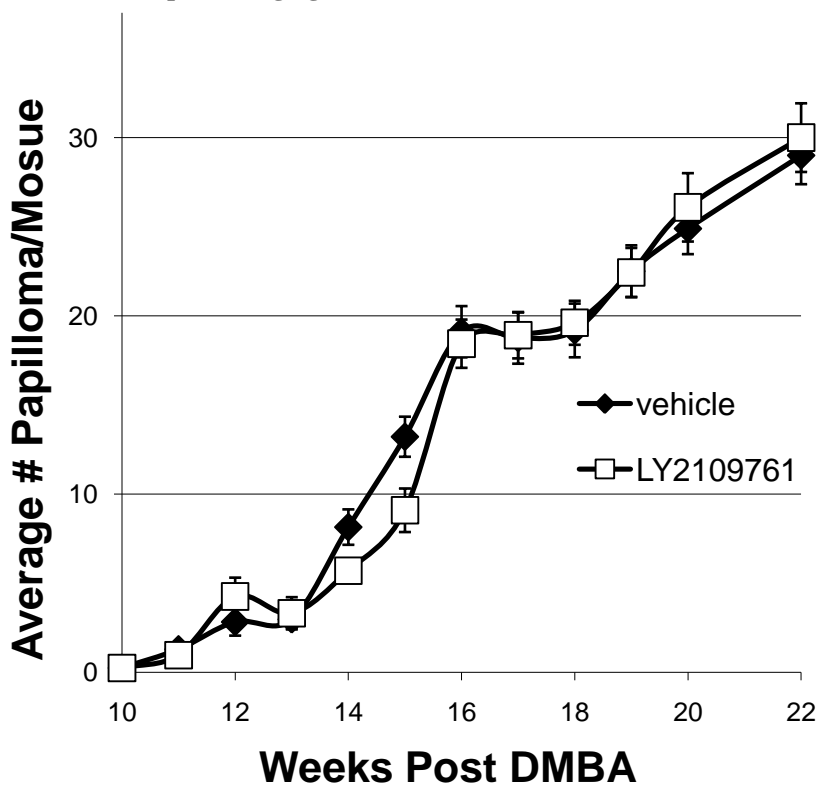


Supplementary Figure S2: TGF- β pathway inhibition increases papilloma incidence.

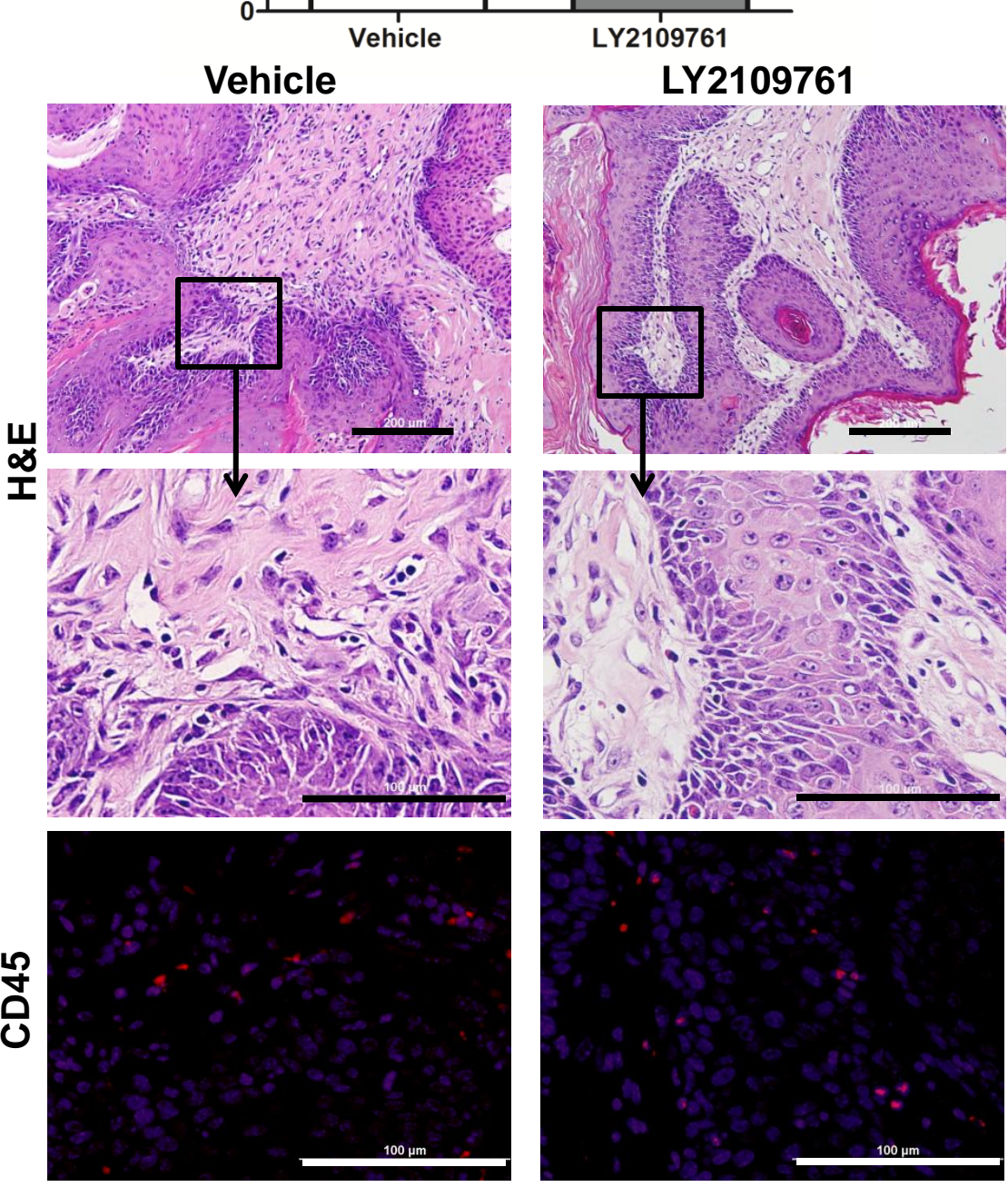
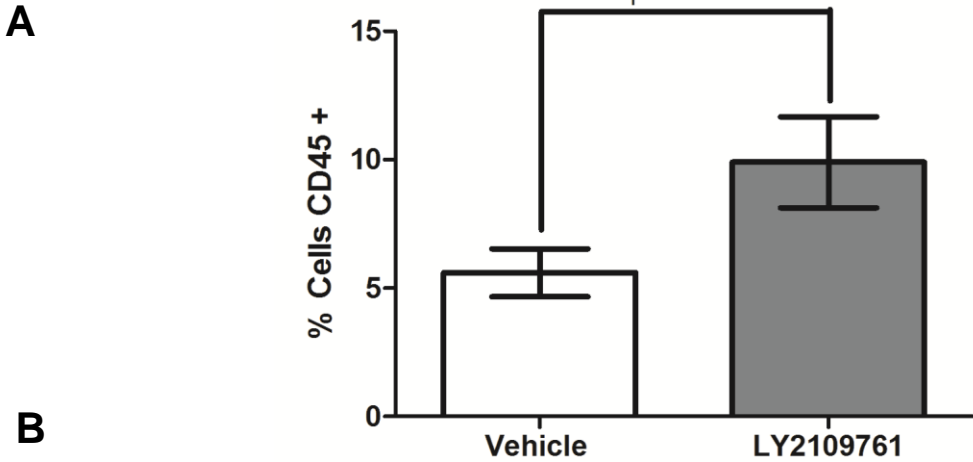
A



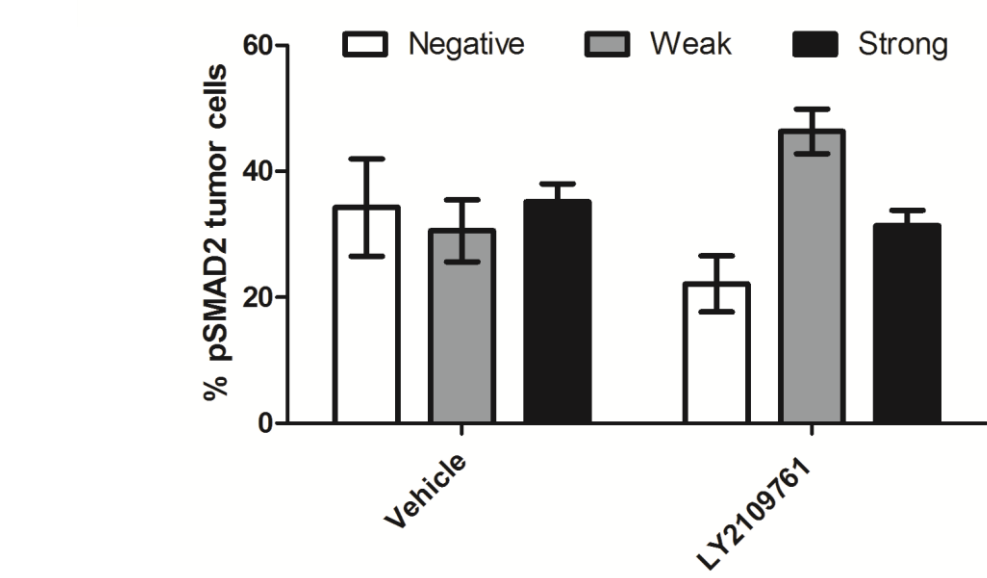
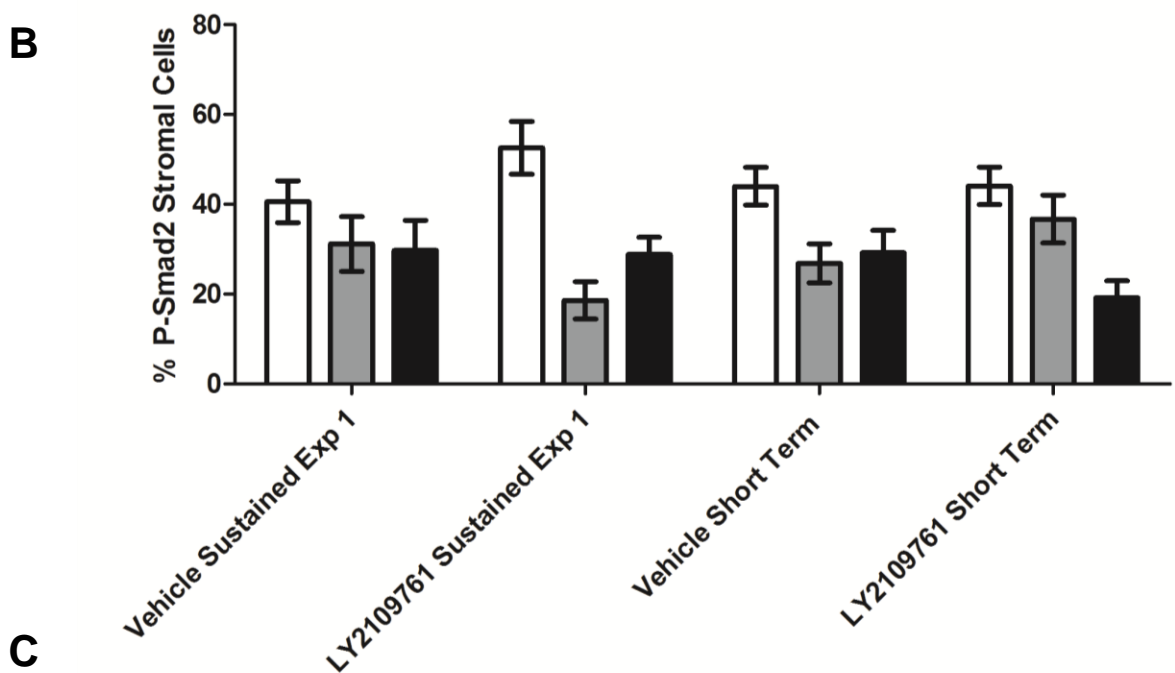
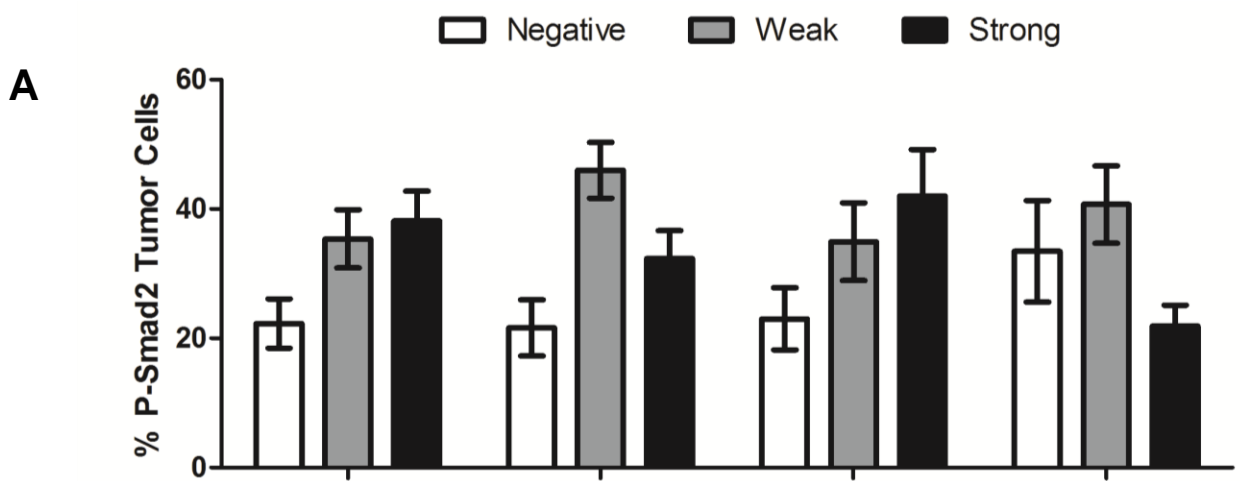
B



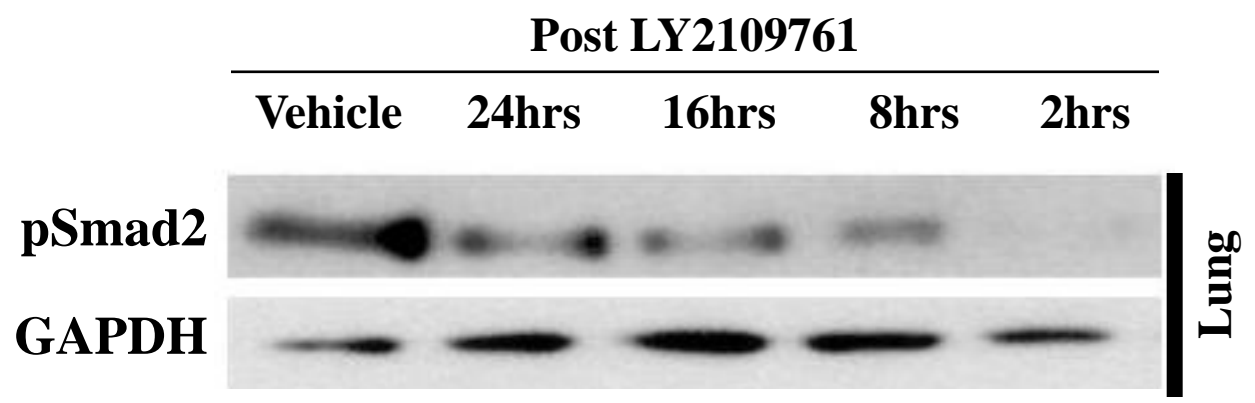
Supplementary Figure S3: Papilloma stroma shows an increase in CD45+ cells after Sustained TGF-β signaling suppression



Supplementary Figure S4: Sustained suppression of TGF- β signaling lead to an outgrowth of drug resistant cells

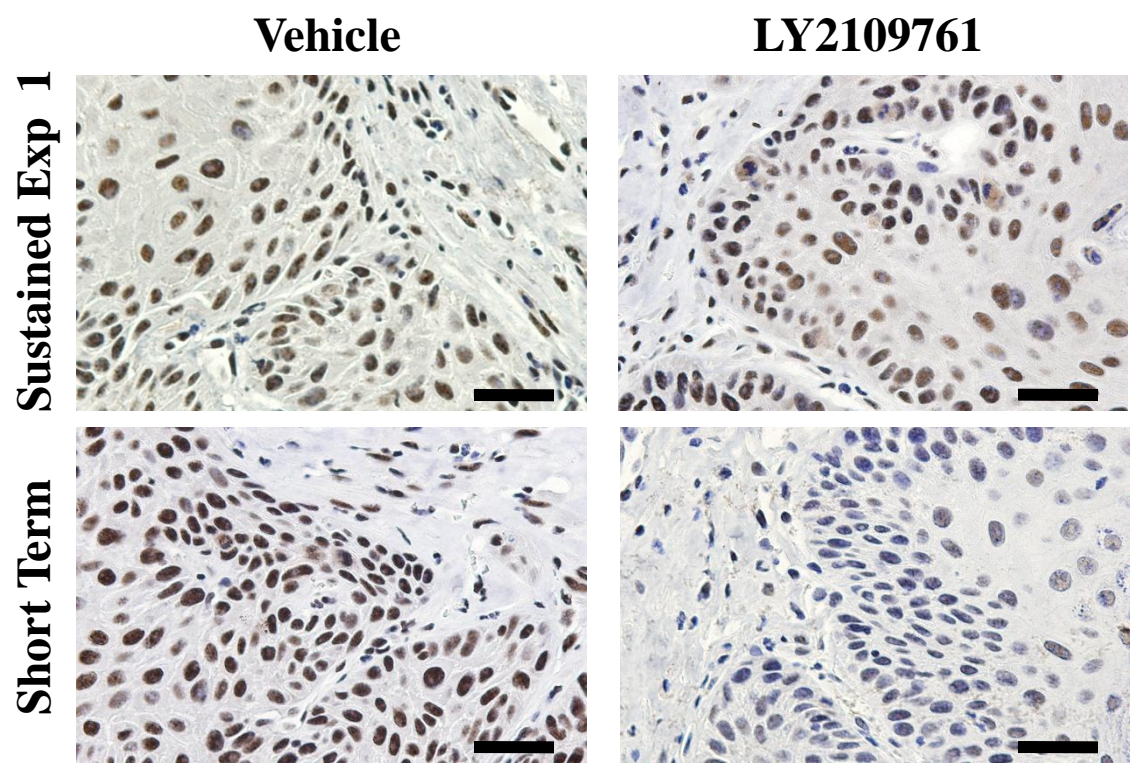


Supplementary Figure S5 : The paradoxical increase of P-Smad2 in Sustained LY2109761 treated tumors is not due to a rebound effect on TGF- β signaling

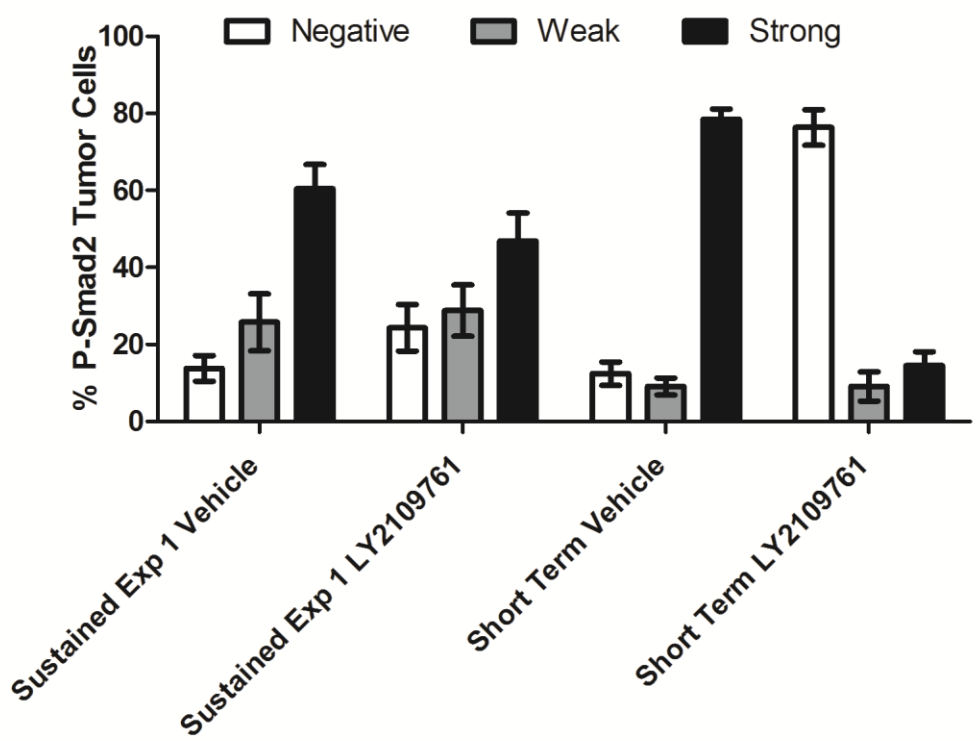


Supplementary Figure S6: :Reduced P-Smad2 response to LY2109761 in papillomas after Short Term but not Sustained drug treatment

A



B



Supplementary Table S1: No effect of TGF- β pathway inhibition on carcinoma incidence or malignant conversion rate.

		# Mice	# Carcinomas	# Papillomas	Ratio Papillomas/Carcinomas
Exp 1 75mg/Kg	LY2109761	11	5	229	45.80
	Vehicle	20	12	307	25.58
Exp 2					
75mg/Kg	LY2109761	23	30	600	20.00
	Vehicle	28	37	695	18.78
Exp 3					
100mg/Kg	LY2109761	28	33	983	29.79
	Vehicle	24	25	720	28.80
				Average	
				LY2109761	31.86
				Vehicle	24.39

Supplementary Table S2: No effect of LY2109761 on spindle versus squamous ratio of chemically-induced carcinoma

Sustained		Squamous	Spindle
Exp. 1	Vehicle	15	0
	LY2109761	24	0
Exp. 2	Vehicle	28	14
	LY2109761	13	8

Supplemental Table 3: Differential carcinoma gene expression profiles between two different drug regimens of LY2109761

Gene Name	Fold Change				Fold Difference in expression level between different groups			
	Sustained Drug / Short Term Drug		Sustained Drug / Short Term Drug / Vehicle		Mean Sustained Drug	Mean Sustained Vehicle	Mean Short Term Drug	Mean Short Term Vehicle
	Q vaule				Drug	Vehicle	Drug	Vehicle
Genes up regulated after Sustained Drug Treatment								
Jam2	6.58	0	3.58	0.65	8.902	7.064	5.918	6.537
Mmp13	6.56	2.22	4.00	0.52	11.96	9.959	9.248	10.2
Sox11	6.08	6.61	6.82	0.79	9.834	7.064	7.23	7.57
6030455K13Rik	5.97	2.22	1.59	1.16	9.095	8.423	6.548	6.334
Mmp3	5.76	0	3.41	0.88	12.05	10.28	9.524	9.706
Pcolce2	5.73	0	3.78	0.77	9.15	7.232	6.917	7.294
9230105E05Rik	5.22	2.22	1.62	0.77	8.831	8.132	6.528	6.897
Krt18	5.14	3.61	3.64	1.14	11.68	9.818	9.322	9.132
Mmp13	4.79	2.22	3.18	0.50	15.23	13.56	12.97	13.98
A530045L16Rik	4.68	6.61	3.63	0.88	9.492	7.632	7.266	7.458
Mmp3	4.52	2.22	2.81	0.72	13.01	11.52	10.83	11.31
Jam2	4.51	8.62	5.41	0.67	9.397	6.962	6.718	7.298
Mmp10	4.4	0	2.44	0.38	12.18	10.89	10.04	11.44
Mmp9	4.35	6.61	3.73	0.43	13.42	11.52	11.3	12.51
Ccl3	4.02	6.61	4.03	0.93	11.73	9.721	9.727	9.832
Il23a	4.01	0	1.62	1.00	9.066	8.366	7.063	7.063
Pcyt1b	4	6.61	2.50	0.75	8.105	6.783	6.107	6.528
Ffar2	4	0	3.06	0.80	9.47	7.857	7.471	7.792
Cd274	3.9	6.61	3.64	0.91	11.6	9.736	9.638	9.774
Ccl4	3.75	7.71	4.13	0.66	9.884	7.837	7.976	8.574
Lamc2	3.68	0	2.35	0.84	12.86	11.63	10.99	11.24
G630056H24Rik	3.66	6.61	1.70	0.87	8.811	8.043	6.94	7.144
Lamc2	3.62	2.22	2.82	0.91	10.32	8.824	8.466	8.596
Lamc2	3.6	2.22	3.29	0.88	10.73	9.013	8.877	9.069
Lamb3	3.59	0	1.97	0.77	14.37	13.39	12.52	12.9
Adcy7	3.58	0	2.29	0.63	8.615	7.417	6.777	7.436
Plau	3.55	6.61	1.91	1.30	13.03	12.1	11.21	10.83
A430042E23Rik	3.43	0	4.29	0.91	8.48	6.38	6.73	6.867
Lamc2	3.4	3.61	1.88	0.65	9.989	9.082	8.222	8.849
Timp1	3.36	6.61	2.68	1.01	12.89	11.47	11.14	11.13
Msx1	3.24	2.22	1.48	0.60	8.487	7.919	6.793	7.518
Tnnt2	3.22	6.61	2.79	0.85	12.17	10.69	10.48	10.71
4933412E12Rik	3.19	3.61	1.95	0.63	7.664	6.703	5.992	6.661
Lama3	3.18	0	1.78	0.75	12.82	11.99	11.15	11.57
Ccl4	3.09	6.61	3.20	0.84	12.83	11.15	11.21	11.47
Ltbp2	3.09	2.22	1.83	0.50	11.62	10.75	9.996	11
Hvcn1	3.05	6.61	2.51	0.79	8.933	7.604	7.325	7.659
LOC385114	3.02	9.7	2.77	0.68	9.238	7.77	7.645	8.201
Cd44	3	7.71	1.35	0.76	9.755	9.326	8.171	8.574
Lrp11	2.96	7.71	2.33	0.73	9.574	8.353	8.009	8.456
Prkg2	2.94	2.22	2.58	1.78	13.54	12.17	11.98	11.15
9430052C07Rik	2.92	0	1.84	1.08	8.682	7.799	7.196	7.086
5830467P10Rik	2.91	3.61	2.04	0.78	12.13	11.1	10.59	10.94

Supplementary Table S3 Continued 1

scf0015365.1_6	2.9	8.62	2.34	0.89	9.844	8.62	8.309	8.472
Afap1	2.89	6.61	1.64	0.86	12.01	11.3	10.48	10.7
AI504432	2.8	0	1.86	0.39	7.726	6.834	6.276	7.65
C530043K16Rik	2.79	9.7	1.52	0.69	10.2	9.593	8.721	9.254
Angptl2	2.78	2.22	2.04	0.86	9.592	8.565	8.115	8.337
D230048P18Rik	2.77	9.7	1.78	0.63	10.28	9.445	8.807	9.485
3010031K01Rik	2.76	6.61	1.37	0.93	9.844	9.395	8.381	8.479
Garnl3	2.7	0	2.02	0.65	7.26	6.244	5.625	6.254
Prrx1	2.68	3.61	1.70	0.88	9.826	9.058	8.403	8.584
Apbb2	2.67	3.61	1.39	0.91	7.834	7.355	6.46	6.596
LOC668631	2.66	8.62	1.73	0.75	11.74	10.95	10.33	10.75
LOC100046817	2.63	6.61	1.65	1.36	9.568	8.847	8.172	7.726
9530081N05Rik	2.62	6.61	1.59	0.55	7.804	7.131	6.416	7.27
E030018N11Rik	2.58	2.22	1.46	0.97	11.88	11.33	10.51	10.55
Ccl7	2.54	2.22	1.96	1.05	11.52	10.55	10.18	10.11
Gne	2.51	7.71	1.63	0.57	8.377	7.675	7.051	7.864
Msn	2.5	6.61	1.43	0.69	7.731	7.211	6.407	6.939
LOC100047480	2.48	6.61	2.18	0.73	7.319	6.197	6.011	6.472
6330522J23Rik	2.47	7.71	0.99	1.08	9.453	9.468	8.151	8.038
Pde4dip	2.42	3.61	1.93	0.75	9.955	9.01	8.68	9.095
Prrx1	2.42	2.22	1.56	0.70	9.413	8.776	8.141	8.65
Cd40	2.41	2.22	1.88	0.64	7.624	6.716	6.357	6.992
D030049N18Rik	2.39	6.61	1.29	0.85	8.648	8.276	7.394	7.636
Emp3	2.38	2.22	2.43	1.22	11.59	10.31	10.34	10.05
Ccnd1	2.35	6.61	1.40	1.48	13.98	13.49	12.75	12.18
Itgb1	2.35	2.22	1.47	1.20	11.72	11.16	10.49	10.23
D830031G23Rik	2.34	6.61	1.51	0.98	8.377	7.78	7.152	7.178
5830411K21Rik	2.33	8.32	1.66	0.77	7.932	7.201	6.712	7.081
Hist1h2ae	2.33	6.61	1.22	1.13	11.64	11.35	10.42	10.25
C130035G06Rik	2.33	6.61	2.62	1.08	7.691	6.301	6.446	6.331
Emp3	2.33	3.61	2.10	0.86	13.47	12.4	12.25	12.47
Ptpn12	2.28	9.7	1.63	0.95	8.018	7.314	6.827	6.902
Otud4	2.28	8.62	1.27	0.92	8.539	8.198	7.353	7.478
4930442M18Rik	2.28	6.61	1.90	0.94	7.514	6.586	6.327	6.422
Gdnf	2.26	8.32	1.21	0.80	9.586	9.311	8.411	8.735
Prss12	2.25	6.61	2.24	0.96	8.519	7.356	7.345	7.401
Nt5e	2.24	9.7	1.77	0.76	10.11	9.289	8.943	9.348
A630097D09Rik	2.24	6.61	1.45	0.80	9.287	8.755	8.126	8.452
4833425P12Rik	2.24	6.61	1.44	0.82	9.655	9.133	8.494	8.786
Tnfrsf12a	2.24	3.61	1.57	1.18	13.09	12.44	11.93	11.69
LOC382691	2.22	6.61	1.53	0.99	10.04	9.425	8.892	8.909
Gpr109a	2.21	7.71	2.19	0.82	12.25	11.12	11.1	11.39
EG245297	2.19	6.61	1.53	0.97	9.907	9.294	8.775	8.813
A730027B03Rik	2.18	3.61	2.23	0.72	7.236	6.082	6.109	6.58
Ubr2	2.18	0	1.18	0.87	8.59	8.353	7.464	7.665
Gstt2	2.17	7.71	1.63	0.60	7.534	6.827	6.417	7.147
4833441J24Rik	2.16	8.62	1.06	0.94	7.425	7.335	6.317	6.408
Snai3	2.15	6.61	1.42	1.35	11.75	11.24	10.64	10.21
2410018L13Rik	2.14	6.61	1.44	1.14	8.392	7.864	7.292	7.104
Pkd2	2.13	8.62	1.55	0.82	11.67	11.04	10.58	10.87
E030018N11Rik	2.12	8.32	1.70	1.05	10.59	9.827	9.506	9.43
5830401L18Rik	2.09	7.71	0.85	1.01	7.258	7.493	6.258	6.25
Ccnd1	2.09	6.61	1.42	1.42	12.05	11.54	10.99	10.48
Ch25h	2.06	6.61	1.90	1.12	9.234	8.308	8.193	8.033

Supplementary Table S3 Continued 2

Lbcl1	2.04	6.61	1.16	0.86	9.389	9.172	8.363	8.582
Cxcl16	2.04	6.61	1.85	0.90	11.93	11.04	10.9	11.06
Bmp1	2.03	6.61	1.73	0.85	11.15	10.36	10.13	10.37
Axl	2.02	8.62	1.56	0.77	13.5	12.86	12.49	12.86
LOC385644	2.01	8.32	1.18	0.73	10.28	10.04	9.273	9.735
LOC100047268	2.01	8.32	1.61	0.98	9.91	9.223	8.902	8.932
Ccnd1	2.01	6.61	1.38	1.13	15.24	14.78	14.24	14.07
A830080H07Rik	2.01	6.61	1.77	0.78	10.17	9.347	9.159	9.511
Rai14	1.99	6.61	1.56	1.12	13.2	12.56	12.21	12.05
Rnf213	1.98	6.61	1.31	0.93	11.92	11.53	10.94	11.05
Itgb1	1.95	7.71	1.38	0.77	13.89	13.43	12.92	13.29
Twist2	1.94	9.7	1.32	0.76	10.54	10.14	9.586	9.987
Prss12	1.92	8.62	1.77	0.79	10.65	9.828	9.715	10.05
Tgif1	1.92	8.32	1.32	0.93	11.32	10.92	10.38	10.49
Nfat5	1.92	0	1.60	0.80	8.477	7.802	7.537	7.856
Ccnl	1.91	7.71	1.17	1.00	11.45	11.22	10.51	10.51
LOC386085	1.9	7.71	1.32	1.12	7.79	7.388	6.868	6.699
Lat2	1.8	9.7	2.89	1.02	10.06	8.527	9.209	9.178
Sox18	1.77	2.22	1.20	0.66	9.966	9.703	9.143	9.747
Enc1	1.67	8.32	1.84	0.95	10.02	9.144	9.278	9.35
Icam1	1.63	9.7	1.55	0.89	11.25	10.62	10.54	10.71
Rabgap1l	1.63	6.61	1.34	0.95	8.208	7.788	7.502	7.581
Tpbp	1.6	8.62	1.26	0.95	8.159	7.821	7.481	7.56
Trio	1.55	9.7						

Genes down regulated after Sustained Drug Treatment

Prss35	0.11	8.02	0.28	0.60	7.427	9.284	10.62	11.35
Scnn1a	0.18	2.22	0.50	1.12	7.123	8.134	9.622	9.454
Pcdh21	0.2	8.02	0.20	0.72	8.483	10.81	10.77	11.24
2610528A11Rik	0.22	8.02	0.34	1.04	11.59	13.15	13.77	13.71
Rnf43	0.23	2.22	0.20	0.99	6.76	9.052	8.862	8.878
Tmem45b	0.23	7.16	0.46	0.95	10.43	11.56	12.56	12.63
Wnk4	0.23	8.02	0.48	2.10	6.789	7.833	8.881	7.81
4930553M18Rik	0.24	7.16	0.58	2.50	8.611	9.398	10.68	9.361
8430408G22Rik	0.24	8.02	0.62	2.27	8.524	9.224	10.57	9.39
LOC280487	0.25	7.16	0.60	2.36	9.781	10.51	11.81	10.57
Slpi	0.25	8.02	0.67	0.90	9.574	10.16	11.55	11.71
Gstm6	0.26	8.02	0.30	1.61	7.442	9.176	9.364	8.675
1190020J12Rik	0.27	8.02	1.03	1.19	11.7	11.66	13.58	13.33
Vldlr	0.28	7.16	0.22	1.00	8.215	10.43	10.08	10.08
Tmem25	0.28	8.02	0.81	1.48	6.558	6.859	8.404	7.842
Gstm1	0.28	8.02	0.24	1.30	8.05	10.11	9.863	9.49
Tm7sf2	0.29	8.02	0.58	1.17	6.636	7.419	8.421	8.191
Hist1h2ae	0.31	2.22	0.53	1.22	6.973	7.897	8.684	8.399
LOC270017	0.32	8.02	0.64	1.64	7.834	8.483	9.465	8.749
LOC213480	0.33	8.02	0.51	1.30	9.768	10.74	11.37	10.99
2310047D13Rik	0.33	8.02	0.40	0.90	12.64	13.95	14.22	14.38
C730023J07Rik	0.34	8.32	0.58	0.56	7.451	8.227	9.022	9.853
H3f3b	0.35	8.02	0.96	1.12	7.763	7.815	9.266	9.105
BC021614	0.35	8.02	0.45	0.91	7.024	8.179	8.533	8.663
Pof1b	0.35	8.02	0.73	0.73	11.27	11.73	12.78	13.24
Aldh5a1	0.35	8.02	0.43	1.02	9.764	10.99	11.27	11.24
LOC384593	0.35	8.32	0.69	0.96	5.516	6.044	7.28	7.346
Mycl1	0.35	8.32	0.77	0.91	7.489	7.861	8.984	9.117

Supplementary Table S3 Continued 3

Vldlr	0.36	8.02	0.26	0.93	6.904	8.821	8.369	8.48
Mapk13	0.36	8.02	0.72	1.28	9.413	9.879	10.9	10.54
LOC386380	0.37	8.02	0.71	1.16	6.844	7.343	8.278	8.07
LOC381578	0.37	8.02	0.60	1.30	5.955	6.691	7.386	7.011
9626953_200	0.37	8.62	0.65	1.77	6.682	7.298	8.122	7.299
Liph	0.37	8.62	1.03	1.38	9.457	9.414	10.91	10.45
Bag2	0.38	8.02	0.61	1.59	8.34	9.056	9.754	9.088
Odz3	0.38	8.32	0.31	0.96	6.322	7.997	7.723	7.781
4922503N01Rik	0.38	8.62	0.59	1.07	7.198	7.957	8.606	8.507
2310022M17Rik	0.39	7.16	0.45	0.92	5.68	6.84	7.038	7.164
S100a16	0.39	8.02	0.87	1.26	10.42	10.62	11.76	11.43
Mgst2	0.39	8.02	0.47	1.09	10.37	11.47	11.72	11.6
LOC671641	0.39	8.02	0.97	1.11	6.698	6.742	8.057	7.906
Dnajc19	0.39	8.32	0.56	1.08	6.01	6.854	7.359	7.247
Rpl22l1	0.39	8.62	0.93	0.98	8.25	8.356	9.626	9.66
2310045L10Rik	0.4	8.02	0.37	1.04	6.025	7.462	7.344	7.284
Chdh	0.4	8.02	0.41	1.02	6.413	7.689	7.73	7.696
Evpl	0.4	8.02	0.61	1.13	9.696	10.42	11.01	10.84
4930583H14Rik	0.4	8.02	0.34	1.23	9.667	11.22	10.98	10.68
Rbp2	0.4	8.62	0.77	0.71	8.889	9.274	10.2	10.7
B230322F03Rik	0.41	7.16	0.77	1.08	6.518	6.898	7.812	7.707
Dnajb4	0.41	7.16	0.57	0.85	6.062	6.865	7.346	7.583
LOC100047252	0.41	8.02	0.65	1.30	6.754	7.376	8.045	7.662
EG384596	0.41	8.02	1.04	0.94	6.66	6.609	7.932	8.028
Dera	0.42	7.16	0.56	1.06	6.675	7.51	7.915	7.827
Apitd1	0.42	8.02	0.56	1.17	7.167	8.014	8.417	8.185
LOC100047670	0.42	8.32	0.67	0.89	6.029	6.604	7.281	7.449
Cnfn	0.42	8.62	0.90	1.09	12.89	13.05	14.14	14.02
Fkbp5	0.43	7.16	0.65	1.27	8.286	8.901	9.51	9.169
9530096D07Rik	0.43	7.16	0.52	0.85	5.584	6.53	6.801	7.037
9530058B02Rik	0.43	8.02	0.49	1.11	7.512	8.55	8.74	8.592
LOC637711	0.43	8.02	0.58	1.12	6.667	7.442	7.897	7.732
9430083A17Rik	0.43	8.32	0.75	1.33	6.839	7.262	8.073	7.658
LOC100047226	0.43	8.62	0.98	1.33	10	10.03	11.24	10.83
5133400G04Rik	0.43	8.62	0.52	1.20	7.956	8.892	9.178	8.909
Rpl4	0.44	7.16	0.71	0.96	6.653	7.15	7.826	7.884
EG333830	0.44	8.32	0.83	1.08	7.005	7.276	8.194	8.08
Kcnrg	0.44	8.32	0.51	0.96	7.456	8.418	8.638	8.703
Dusp14	0.44	8.62	0.84	1.11	9.893	10.15	11.08	10.93
EG666668	0.45	8.02	1.05	1.45	6.811	6.746	7.957	7.418
LOC100044194	0.45	8.02	0.54	1.02	9.52	10.42	10.67	10.64
Hmox1	0.45	8.32	0.66	0.91	10.93	11.54	12.1	12.24
Per1	0.45	8.32	0.93	1.16	7.519	7.616	8.664	8.456
Il17rc	0.45	8.32	0.52	1.00	8.116	9.052	9.263	9.263
Ppl	0.46	8.32	0.97	0.95	11.84	11.89	12.95	13.02
Rab10	0.46	8.32	0.66	1.20	7.418	8.026	8.541	8.284
1700022J01Rik	0.47	7.16	0.72	1.02	6.141	6.623	7.227	7.197
Macrocl1	0.47	8.02	0.65	0.89	6.873	7.499	7.948	8.118
Ppl	0.47	8.02	0.97	1.04	12.32	12.36	13.42	13.36
Dusp22	0.47	8.02	0.71	0.85	7.851	8.338	8.951	9.188
9530048O09Rik	0.47	8.02	0.55	1.30	5.96	6.818	7.061	6.681
D030022P06Rik	0.47	8.32	0.86	0.95	9.686	9.898	10.76	10.84
Nlr1	0.47	8.32	0.57	1.45	7.269	8.079	8.355	7.818
Rps19	0.47	8.62	0.68	1.57	6.701	7.266	7.796	7.148
LOC216036	0.48	8.02	0.99	1.15	6.95	6.965	8.007	7.801

Supplementary Table S3 Continued 4

LOC668837	0.48	8.02	1.04	1.17	8.21	8.157	9.266	9.037
Car13	0.48	8.02	0.64	1.06	12.17	12.81	13.24	13.16
Naprt1	0.48	8.02	0.37	0.82	9.928	11.38	11	11.28
LOC100047173	0.48	8.62	0.70	0.90	10.02	10.54	11.09	11.25
Evpl	0.49	8.02	0.66	1.10	12.48	13.07	13.52	13.38
EG329521	0.49	8.32	1.02	1.41	8.149	8.121	9.172	8.674
EG384525	0.49	8.32	0.94	1.26	9.832	9.922	10.86	10.53
EG633570	0.49	8.62	0.97	1.16	6.776	6.826	7.816	7.605
Al118078	0.49	9.7	0.52	0.87	7.037	7.987	8.063	8.256
Olfra438	0.5	8.02	0.68	1.09	5.91	6.457	6.912	6.786
Fancl	0.5	8.02	0.61	1.11	6.752	7.466	7.742	7.588
LOC245676	0.5	8.32	1.05	1.14	8.598	8.533	9.602	9.412
Lrrc20	0.5	8.32	0.45	0.92	6.525	7.663	7.535	7.659
Ahnak	0.5	8.62	0.68	1.08	10.64	11.2	11.65	11.54
Bloc1s3	0.5	9.7	0.80	1.37	6.426	6.749	7.411	6.96
Nudt8	0.51	8.02	0.70	1.27	8.869	9.382	9.842	9.501
LOC633945	0.51	8.32	1.37	1.58	8.568	8.119	9.538	8.875
LOC383850	0.51	8.62	0.77	1.12	6.941	7.311	7.921	7.762
Pdcd4	0.51	8.62	1.13	1.12	7.213	7.042	8.173	8.011
Slc16a6	0.51	8.62	0.64	0.97	8.72	9.369	9.683	9.734
Sugt1	0.51	8.62	0.67	1.06	6.076	6.664	7.061	6.981
Eif3m	0.51	8.62	0.85	1.13	6.964	7.197	7.927	7.751
Rpl14	0.52	8.02	0.70	1.14	6.907	7.417	7.857	7.672
G6pdx	0.52	8.02	0.72	1.13	9.431	9.907	10.38	10.21
Avpi1	0.52	8.02	0.65	0.83	10.75	11.38	11.7	11.97
Egfr	0.52	8.02	0.79	0.98	7.993	8.338	8.945	8.975
LOC435912	0.52	8.02	0.87	1.35	7.183	7.381	8.122	7.689
Grhl1	0.52	8.32	0.87	0.92	10.81	11.01	11.74	11.86
C78339	0.52	8.62	0.91	1.00	9.551	9.687	10.48	10.48
LOC675985	0.52	8.62	1.08	1.31	9.682	9.566	10.64	10.25
Reep6	0.52	8.62	0.90	1.18	8.487	8.638	9.417	9.184
Asah3l	0.53	8.02	0.83	1.05	9.096	9.371	10.02	9.956
Ccdc5	0.53	8.32	0.72	1.10	8.162	8.64	9.084	8.941
LOC625752	0.53	8.32	0.71	1.12	6.925	7.422	7.829	7.669
Perld1	0.53	8.32	0.85	1.17	6.405	6.634	7.331	7.11
Gata4	0.53	8.32	0.78	1.01	6.802	7.152	7.729	7.72
EG434404	0.53	8.62	0.93	1.34	10.76	10.87	11.68	11.26
Entpd5	0.53	8.62	0.61	1.01	8.681	9.389	9.607	9.591
ldh3a	0.54	8.32	0.83	1.65	6.346	6.613	7.245	6.52
Ada	0.54	8.32	0.50	0.81	7.013	8.003	7.914	8.227
Gpr89	0.54	8.32	0.60	1.32	5.945	6.683	6.832	6.428
Ndg2	0.54	8.62	0.61	1.01	10.72	11.43	11.62	11.61
Abhd2	0.54	8.62	1.10	1.25	7.879	7.738	8.76	8.442
Epn3	0.55	8.02	0.63	1.27	6.678	7.34	7.531	7.19
LOC100042815	0.55	8.32	0.79	1.42	5.997	6.34	6.865	6.356
2310022K01Rik	0.55	8.62	0.63	1.20	5.893	6.557	6.764	6.504
Ndufa5	0.55	9.7	0.73	0.93	7.646	8.104	8.504	8.606
LOC545487	0.55	9.7	1.04	1.06	10.04	9.98	10.89	10.81
Abcd4	0.56	8.02	0.63	1.40	6.919	7.578	7.757	7.273
Rps24	0.56	8.32	0.68	1.04	10.48	11.04	11.31	11.26
LOC100045117	0.56	8.62	0.83	1.22	6.567	6.841	7.392	7.104
Arrdc3	0.56	8.62	0.74	1.04	10.25	10.69	11.07	11.02
LOC381330	0.56	8.62	0.78	1.24	5.982	6.344	6.827	6.511
LOC218060	0.56	9.7	0.84	1.01	6.838	7.093	7.667	7.659

Supplementary Table S3 Continued 5

Mapkapk3	0.57	8.02	0.76	1.01	9.903	10.3	10.7	10.68
2010003O02Rik	0.57	8.02	1.02	1.09	6.394	6.36	7.206	7.084
Acat1	0.57	8.32	0.86	0.99	6.642	6.867	7.456	7.471
2810425O13Rik	0.57	8.62	0.88	1.18	8.068	8.248	8.891	8.647
LOC630127	0.57	8.62	0.75	0.98	5.675	6.097	6.475	6.499
9830147N24Rik	0.57	9.7	0.96	1.11	5.551	5.61	6.35	6.199
Rab24	0.58	8.02	0.62	1.05	10.58	11.27	11.37	11.3
Lsm12	0.58	8.32	0.77	1.20	8.367	8.737	9.145	8.886
Msh2	0.58	8.32	1.00	1.22	7.059	7.062	7.852	7.564
Ccdc114	0.58	8.32	0.79	1.29	6.684	7.022	7.475	7.104
Pdlim2	0.58	8.62	0.61	0.97	8.063	8.775	8.837	8.878
Vti1a	0.59	8.02	0.78	1.19	9.516	9.871	10.28	10.03
Etfb	0.59	8.02	0.67	1.11	11.78	12.35	12.55	12.4
Atp5e	0.59	8.32	1.22	1.07	7.535	7.245	8.308	8.213
LOC667269	0.59	8.32	0.84	1.06	8.266	8.51	9.032	8.942
Adck4	0.59	8.62	0.65	0.95	7.623	8.253	8.377	8.459
LOC627317	0.59	9.7	0.85	1.20	11.26	11.49	12.03	11.77
LOC434127	0.6	8.32	1.24	1.04	9.031	8.719	9.774	9.719
Arfp2	0.6	8.32	0.91	1.14	8.056	8.198	8.8	8.617
LOC384315	0.6	8.62	0.80	1.41	7.316	7.645	8.048	7.554
Fahd2a	0.6	8.62	0.69	0.89	7.871	8.408	8.618	8.79
1810046J19Rik	0.61	8.32	0.80	1.12	12.92	13.24	13.63	13.47
Snf8	0.61	8.32	0.89	1.08	9.056	9.221	9.762	9.652
Ubl4	0.61	8.32	0.86	1.06	11.28	11.5	12.01	11.93
Rab3d	0.61	8.62	0.84	1.04	11.31	11.56	12.02	11.97
Smyd5	0.61	9.7	0.66	1.44	6.682	7.278	7.4	6.874
Mrpl36	0.62	8.32	0.74	1.07	9.1	9.543	9.801	9.707
LOC672474	0.62	8.32	0.71	1.09	11.42	11.91	12.1	11.97
Mapk3	0.63	8.32	0.90	1.29	9.213	9.373	9.874	9.504
Vdac3	0.63	8.62	0.87	1.19	7.414	7.616	8.079	7.823
Cdc42ep4	0.63	8.62	0.63	0.96	9.25	9.925	9.924	9.978
Pccb	0.63	8.62	0.86	0.94	7.571	7.79	8.228	8.318
Tmem107	0.64	8.32	0.96	1.19	7.31	7.366	7.944	7.698
Rps3a	0.65	8.02	0.91	1.03	13.22	13.36	13.84	13.8
Ard1	0.65	8.62	0.73	1.13	12	12.46	12.63	12.46
A230066D03Rik	0.65	9.7	0.81	1.07	7.054	7.353	7.677	7.585
LOC668038	0.65	9.7	1.00	1.10	12.13	12.13	12.75	12.61
1810043H04Rik	0.67	8.62	0.94	1.11	9.436	9.527	10.02	9.873

Supplementary Table 4: Genes expressed in carcinomas after Sustained LY2109761 Treatment only or after Short Term LY2109761 Treatment only

A Present only in Sustained:		B Present only in Short Term:	
Gene Name	Mean Expression (log2)	Gene Name	Mean Expression (log2)
Lgr6	8.01	2300002M23Rik	8.77
Rbpj	7.48	Amhr2	6.99
C230081A13Rik	6.89	2310047D13Rik	6.86
Jcam2	6.62	Wdr92	6.69
B430203G13Rik	6.57	2510049J12Rik	6.57
2700029L08Rik	6.54	Kcnj15	6.55
A730089E01Rik	6.47	2810032G03Rik	6.42
AI504432	6.45	LOC380925	5.82
4833418A01Rik	6.43	AB114826	5.72
LOC676640	6.42	Olfr94	5.69
Zfp346	6.4		
2900002H16Rik	6.37		
Frmd4a	6.36		
Rnf165	6.33		
Baz1b	6.32		
C530005A01Rik	6.3		
2610109H07Rik	6.29		
2410089E03Rik	6.27		
LOC667370	6.26		
Cdkl5	6.24		
C130075H21Rik	6.22		
Mobkl2b	6.15		
D330008G18Rik	6.14		
Bmp2k	6.03		
1600014C10Rik	6.02		
D430045C01Rik	6.01		
Chd9	6		
Med15	5.99		
E130314P11Rik	5.96		
Map3k2	5.91		
LOC100044275	5.91		
3110033D18Rik	5.9		
Zfp69	5.9		
4631410M14Rik	5.89		
Msx1	5.88		
LOC672342	5.88		
Gm1276	5.87		
9430081I23Rik	5.87		

Supplementary Table S4 Continued

Present only in Sustained

Adc	5.87
scl0002711.1_76	5.86
Rasa4	5.86
Slc23a1	5.86
5330421C15Rik	5.86
LOC100044529	5.84
Ctxn1	5.84
Sag	5.83
D930007M16Rik	5.83
Ubr1	5.82
E430014L09Rik	5.8
Pgm3	5.79
Rps6ka2	5.77
Cdan1	5.76
B230209J16Rik	5.72
A230069K02Rik	5.7
Frmpr4	5.7
LOC383067	5.68
C87499	5.67
Vars	5.67
Ankrd17	5.65
B230206P06Rik	5.65
Megf10	5.65
scl0002388.1_41	5.64
Aifm2	5.63
LOC381168	5.62
9130416J18Rik	5.62
Ttll3	5.61
KIF3B	5.6
scl0004209.1_534	5.59
A630050F23Rik	5.57
4930579K19Rik	5.56
Ebf	5.56
1700085B03Rik	5.54
Zfp385	5.5
6330537M06Rik	5.48
A630086P05Rik	5.44
Ddx23	5.37

Supplementary Table S5: Delocalization of E-cadherin in chemically-induced carcinomas following long term LY2109761 treatment

		#Mice	Delocalization	Partial Delocalization	Membrane Associated
Sustained Exp 1	LY2109761	8	4(50%)	3(38%)	1(12%)
	Vehicle	8	0	0	8(100%)
Short Term	LY2109761	5	0	1(20%)	4(80%)
	Vehicle	7	0	0	7(100%)