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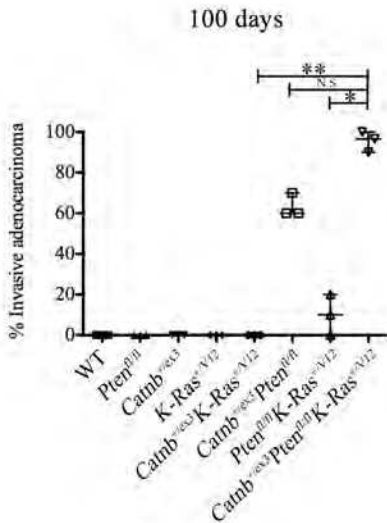
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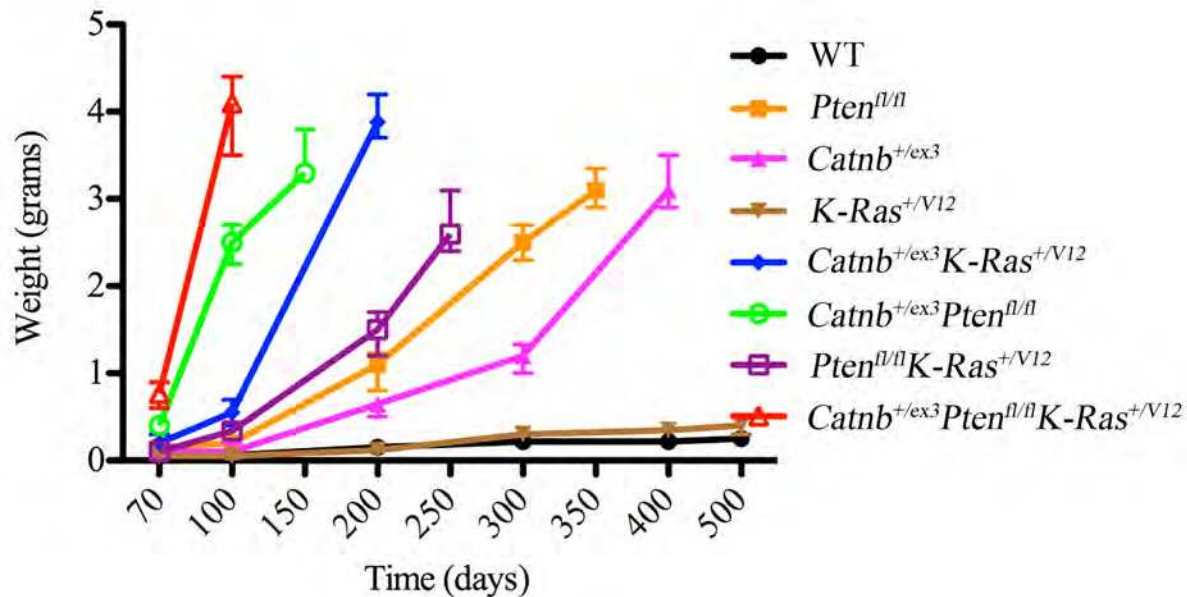
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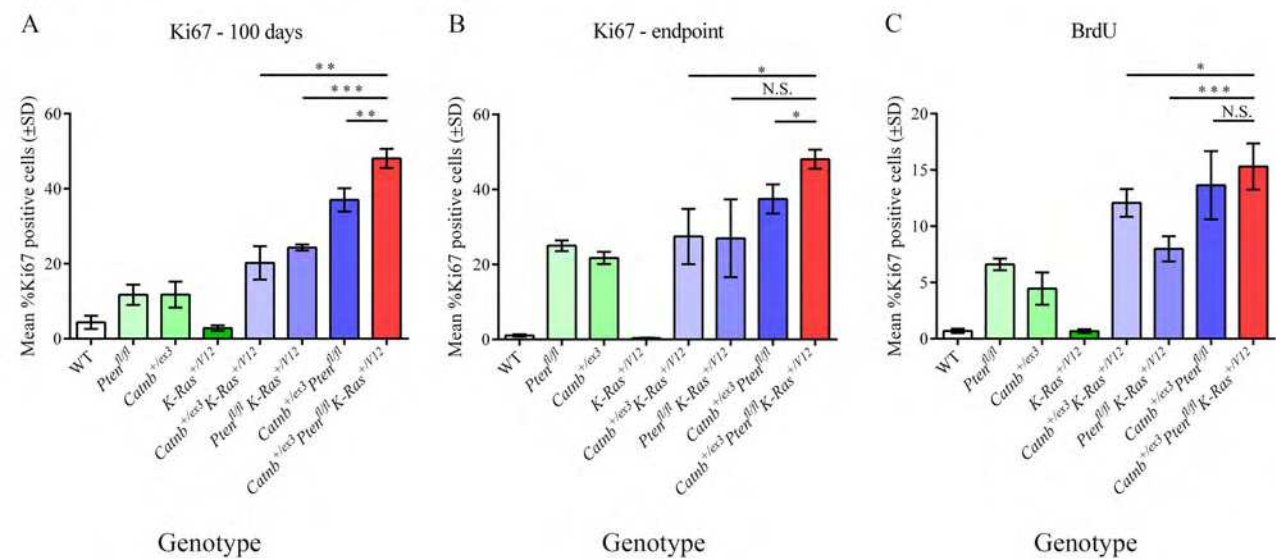
Supplementary Figure S2



Supplementary Figure S3



Supplementary Figure S4



Ki67 (100 days)

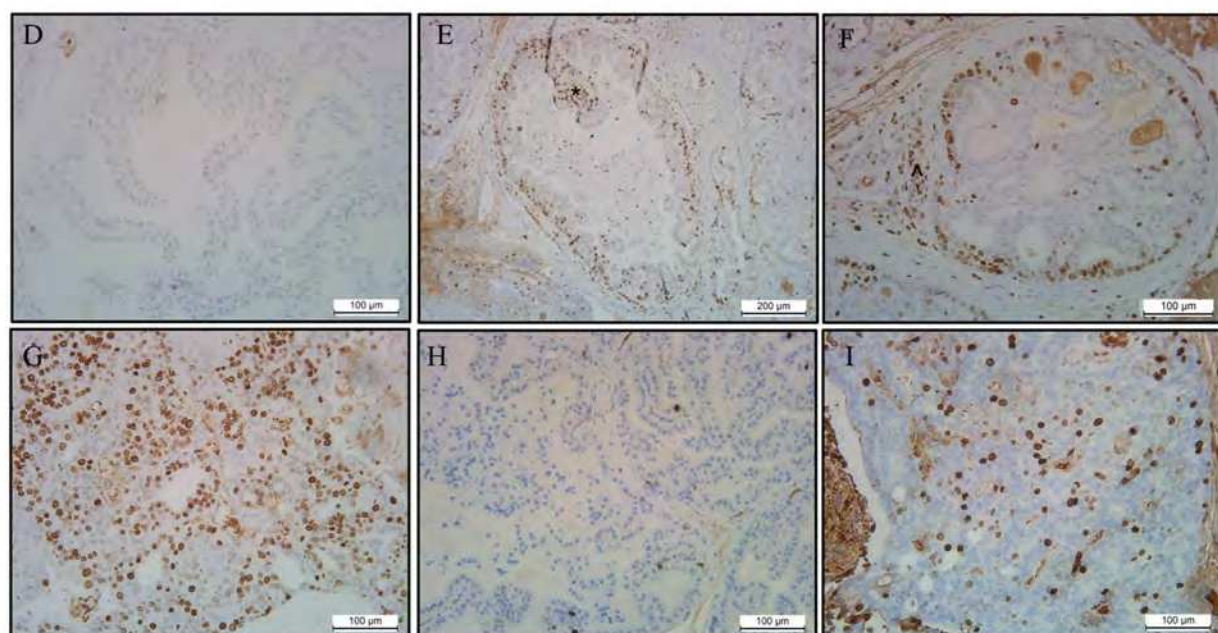
Genotype	WT	<i>Pten^{fl/fl}</i>	<i>Catnb^{+/-lox3}</i>	<i>K-Ras^{+/-12}</i>	<i>Catnb^{+/-lox3} K-Ras^{+/-12}</i>	<i>Pten^{fl/fl} K-Ras^{+/-12}</i>	<i>Catnb^{+/-lox3} Pten^{fl/fl}</i>	<i>Catnb^{+/-lox3} Pten^{fl/fl} K-Ras^{+/-12}</i>
WT	0.0163							
<i>Pten^{fl/fl}</i>	0.0201	0.9789						
<i>Catnb^{+/-lox3}</i>	0.2095	0.0027	0.0037					
<i>K-Ras^{+/-12}</i>	0.0036	0.0483	0.0614	0.0028				
<i>Catnb^{+/-lox3} K-Ras^{+/-12}</i>	0.0013	0.0056	0.0102	0.0002	0.2140			
<i>Pten^{fl/fl} K-Ras^{+/-12}</i>	0.0056	0.0011	0.0023	0.0001	0.0128	0.0012		
<i>Catnb^{+/-lox3} Pten^{fl/fl}</i>	0.0004	0.0005	0.0010	0.0001	0.0033	0.0001	0.0007	

Ki67 (endpoint)

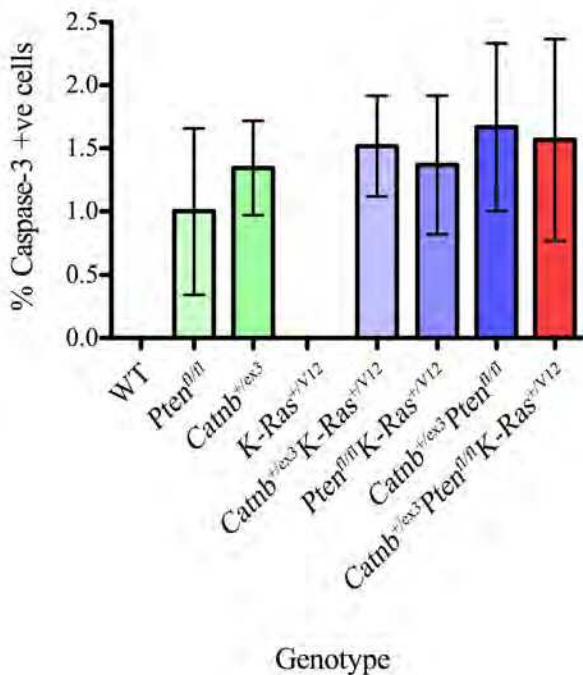
Genotype	WT	<i>Pten^{fl/fl}</i>	<i>Catnb^{+/-lox3}</i>	<i>K-Ras^{+/-12}</i>	<i>Catnb^{+/-lox3} K-Ras^{+/-12}</i>	<i>Pten^{fl/fl} K-Ras^{+/-12}</i>	<i>Catnb^{+/-lox3} Pten^{fl/fl}</i>	<i>Catnb^{+/-lox3} Pten^{fl/fl} K-Ras^{+/-12}</i>
WT	0.0001							
<i>Pten^{fl/fl}</i>	0.0626							
<i>Catnb^{+/-lox3}</i>	0.0130	0.0001	0.0001					
<i>K-Ras^{+/-12}</i>	0.0001	0.6514	0.2344	0.0001				
<i>Catnb^{+/-lox3} K-Ras^{+/-12}</i>	0.0001	0.0041	0.0039	0.0001	0.8732			
<i>Pten^{fl/fl} K-Ras^{+/-12}</i>	0.0001	0.0001	0.0001	0.1056	0.1856			
<i>Catnb^{+/-lox3} Pten^{fl/fl}</i>	0.0001	0.0001	0.0001	0.0001	0.0177	0.0523	0.0200	

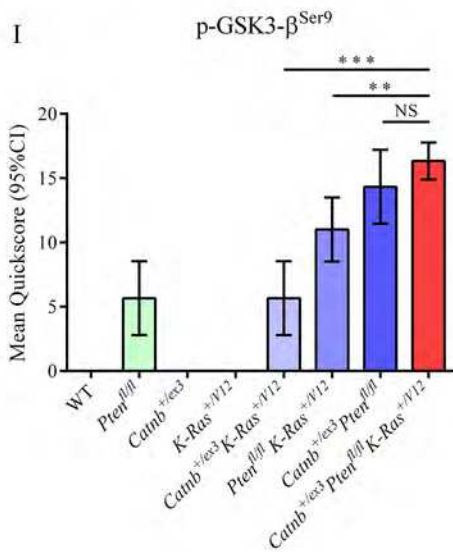
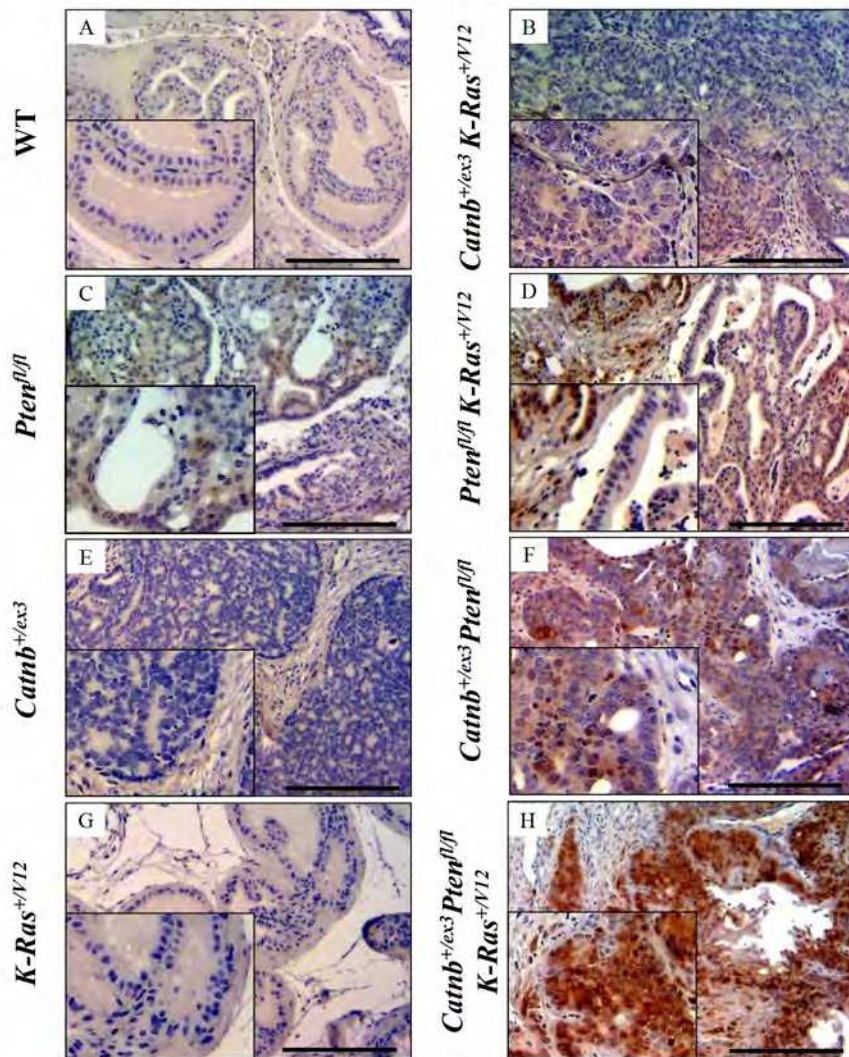
BrdU

Genotype	WT	<i>Pten^{fl/fl}</i>	<i>Catnb^{+/-lox3}</i>	<i>K-Ras^{+/-12}</i>	<i>Catnb^{+/-lox3} K-Ras^{+/-12}</i>	<i>Pten^{fl/fl} K-Ras^{+/-12}</i>	<i>Catnb^{+/-lox3} Pten^{fl/fl}</i>	<i>Catnb^{+/-lox3} Pten^{fl/fl} K-Ras^{+/-12}</i>
WT	0.0001							
<i>Pten^{fl/fl}</i>	0.0001	0.0592						
<i>Catnb^{+/-lox3}</i>	0.8950	0.0001	0.0002					
<i>K-Ras^{+/-12}</i>	0.0001	0.0001	0.0016	0.0001				
<i>Catnb^{+/-lox3} K-Ras^{+/-12}</i>	0.0001	0.0001	0.0193	0.0001	0.0027			
<i>Pten^{fl/fl} K-Ras^{+/-12}</i>	0.0001	0.0010	0.0018	0.0001	0.4183	0.0071		
<i>Catnb^{+/-lox3} Pten^{fl/fl}</i>	0.0001	0.0001	0.0006	0.0001	0.0324	0.0005	0.3668	

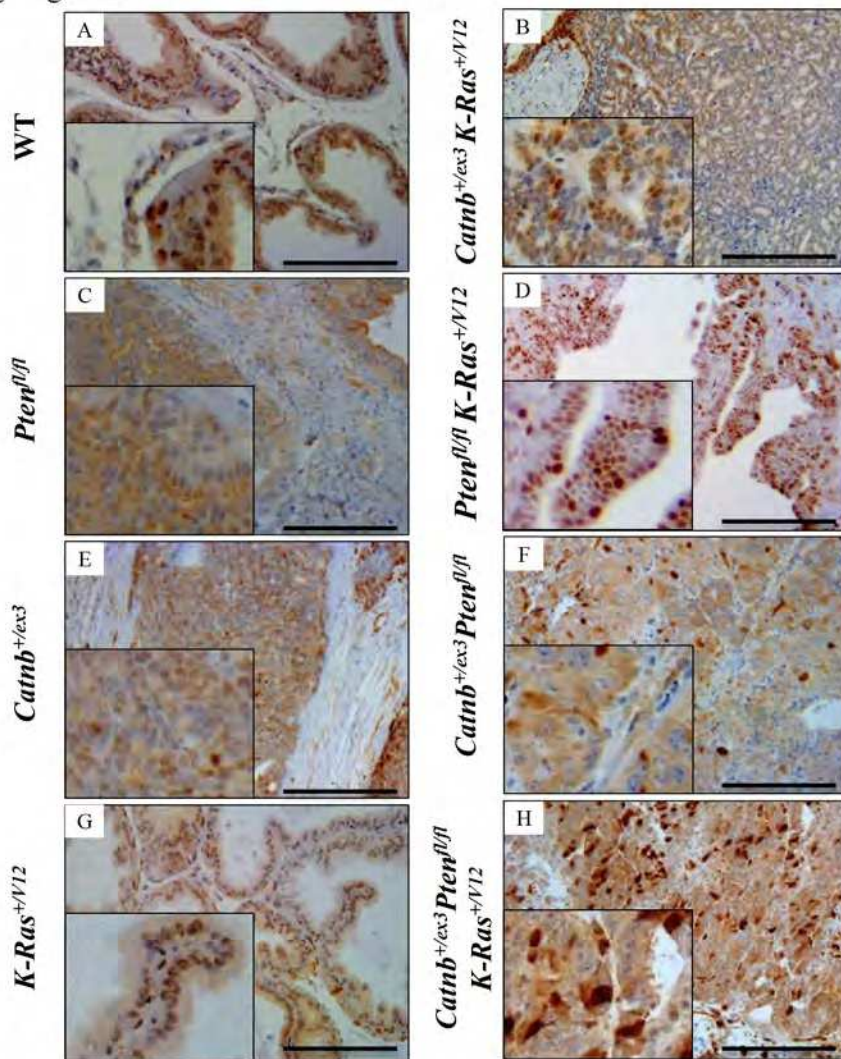


Endpoint (death)

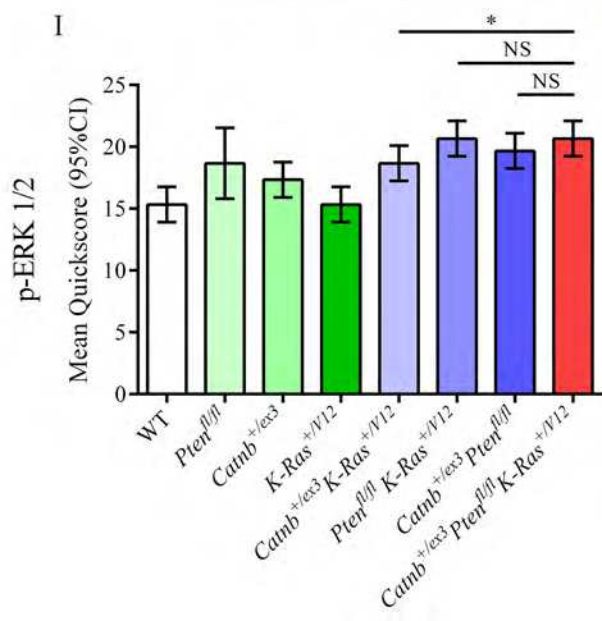


p-GSK3- β ^{Ser9}

pGSK	Genotypes							
	WT	<i>Pten</i> ^{β/β}	<i>Catnb</i> ^{+/<i>ex3</i>}	<i>K-Ras</i> ^{+/<i>V12</i>}	<i>Catnb</i> ^{+/<i>ex3</i>} <i>K-Ras</i> ^{+/<i>V12</i>}	<i>Pten</i> ^{β/β} <i>K-Ras</i> ^{+/<i>V12</i>}	<i>Catnb</i> ^{+/<i>ex3</i>} <i>Pten</i> ^{β/β}	<i>Catnb</i> ^{+/<i>ex3</i>} <i>Pten</i> ^{β/β} <i>K-Ras</i> ^{+/<i>V12</i>}
WT								
<i>Pten</i> ^{β/β}	0.0011							
<i>Catnb</i> ^{+/<i>ex3</i>}	N/A	0.0011						
<i>K-Ras</i> ^{+/<i>V12</i>}	N/A	0.0011	N/A					
<i>Catnb</i> ^{+/<i>ex3</i>} <i>K-Ras</i> ^{+/<i>V12</i>}	0.0011	0.9999	0.0011	0.0011				
<i>Pten</i> ^{β/β} <i>K-Ras</i> ^{+/<i>V12</i>}	0.0001	0.0038	0.0001	0.0001	0.0038			
<i>Catnb</i> ^{+/<i>ex3</i>} <i>Pten</i> ^{β/β}	0.0001	0.0008	0.0001	0.0001	0.0008	0.0194		
<i>Catnb</i> ^{+/<i>ex3</i>} <i>Pten</i> ^{β/β} <i>K-Ras</i> ^{+/<i>V12</i>}	0.0001	0.0001	0.0001	0.0001	0.0001	0.0013	0.5500	

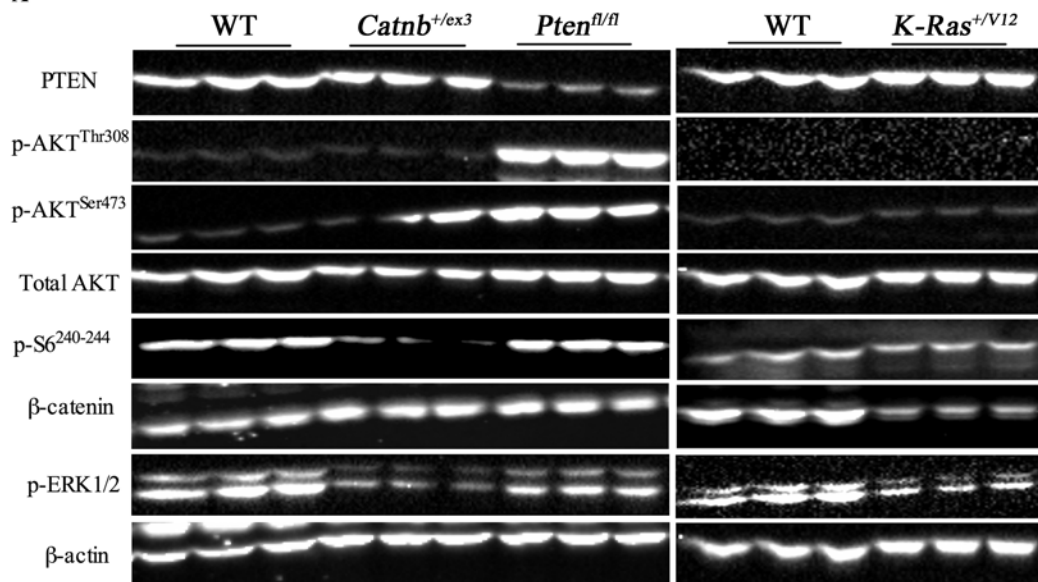


I

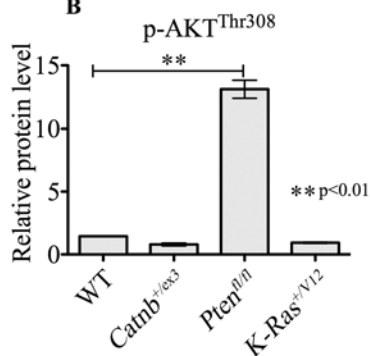


p-ERK		WT	<i>Pten</i> ^{β/β}	<i>Catnb</i> ^{+ex3}	<i>K-Ras</i> ^{+V12}	<i>Catnb</i> ^{+ex3} <i>K-Ras</i> ^{+V12}	<i>Pten</i> ^{β/β} <i>K-Ras</i> ^{+V12}	<i>Catnb</i> ^{+ex3} <i>Pten</i> ^{β/β}	<i>Catnb</i> ^{+ex3} <i>Pten</i> ^{β/β} <i>K-Ras</i> ^{+V12}
WT									
<i>Pten</i> ^{β/β}	0.0111								
<i>Catnb</i> ^{+ex3}	0.0132	0.1481							
<i>K-Ras</i> ^{+V12}	0.9999	0.0111	0.0132						
<i>Catnb</i> ^{+ex3} <i>K-Ras</i> ^{+V12}	0.0021	0.9999	0.0474	0.0021					
<i>Pten</i> ^{β/β} <i>K-Ras</i> ^{+V12}	0.0003	0.0550	0.0021	0.0003	0.0132				
<i>Catnb</i> ^{+ex3} <i>Pten</i> ^{β/β}	0.0008	0.2508	0.0078	0.0008	0.1012	0.1012			
<i>Catnb</i> ^{+ex3} <i>Pten</i> ^{β/β} <i>K-Ras</i> ^{+V12}	0.0003	0.0550	0.0021	0.0003	0.0132	0.9999	0.1012		

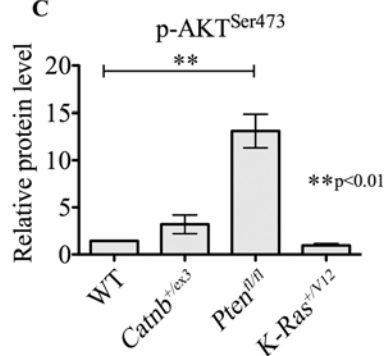
A



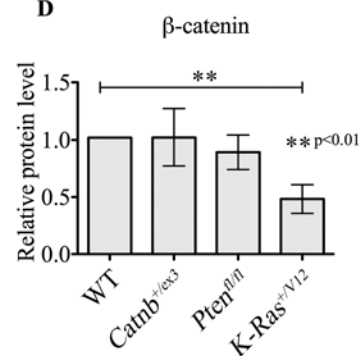
B



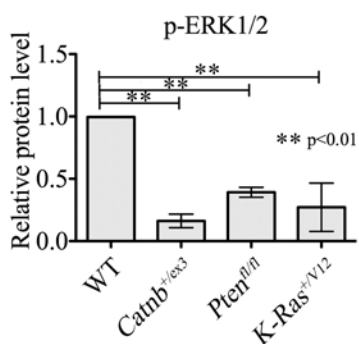
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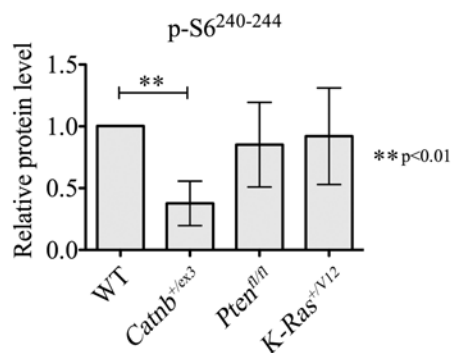
D



E



F



Supplementary Figure S9

WNT pathway

PI3K pathway

MAPK pathway

