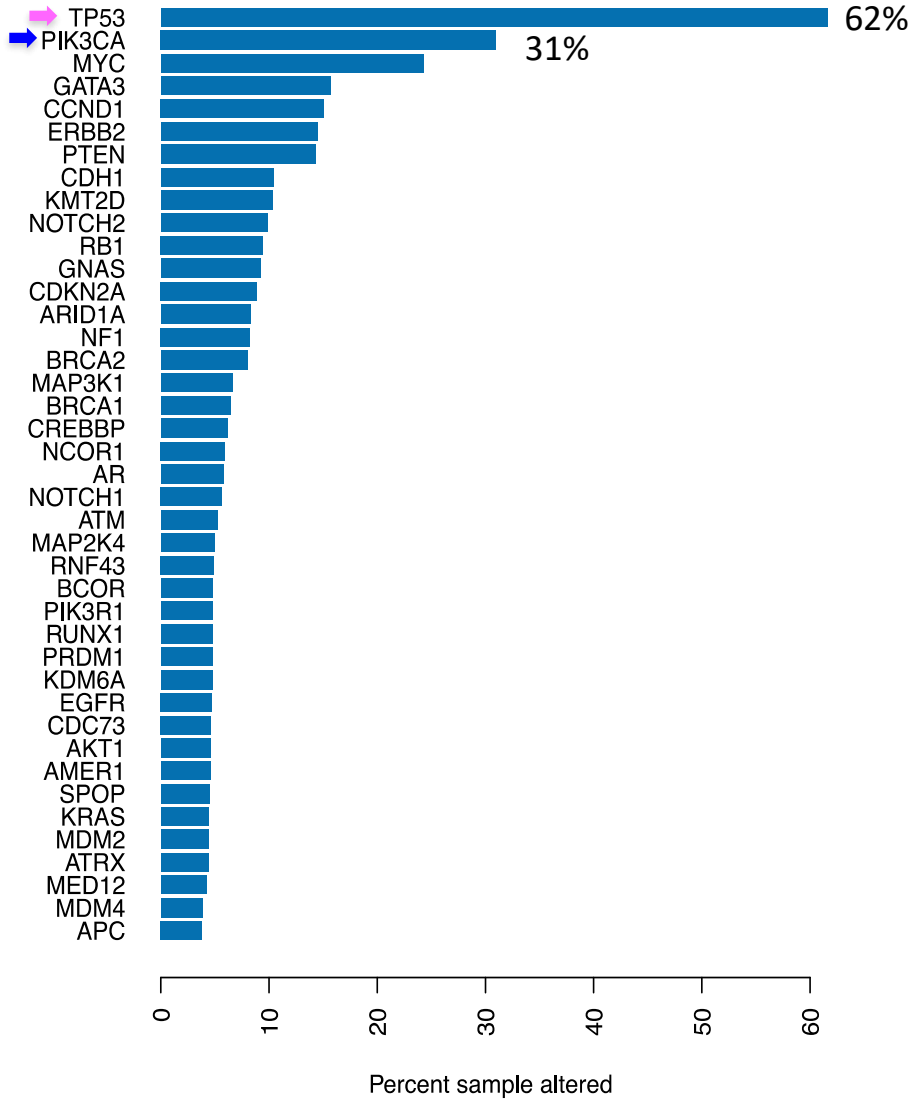


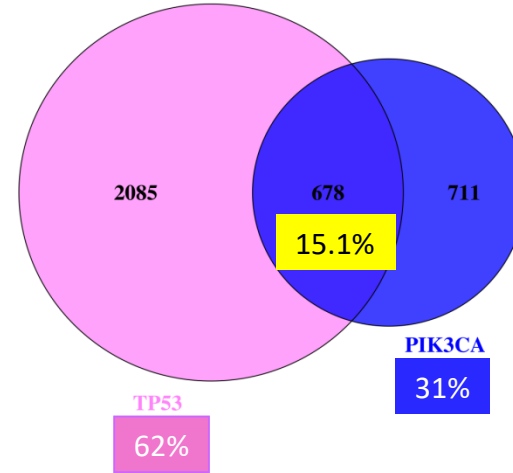
A

Primary breast samples (n = 4,485)



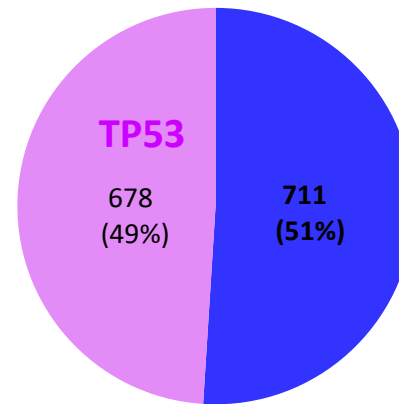
B

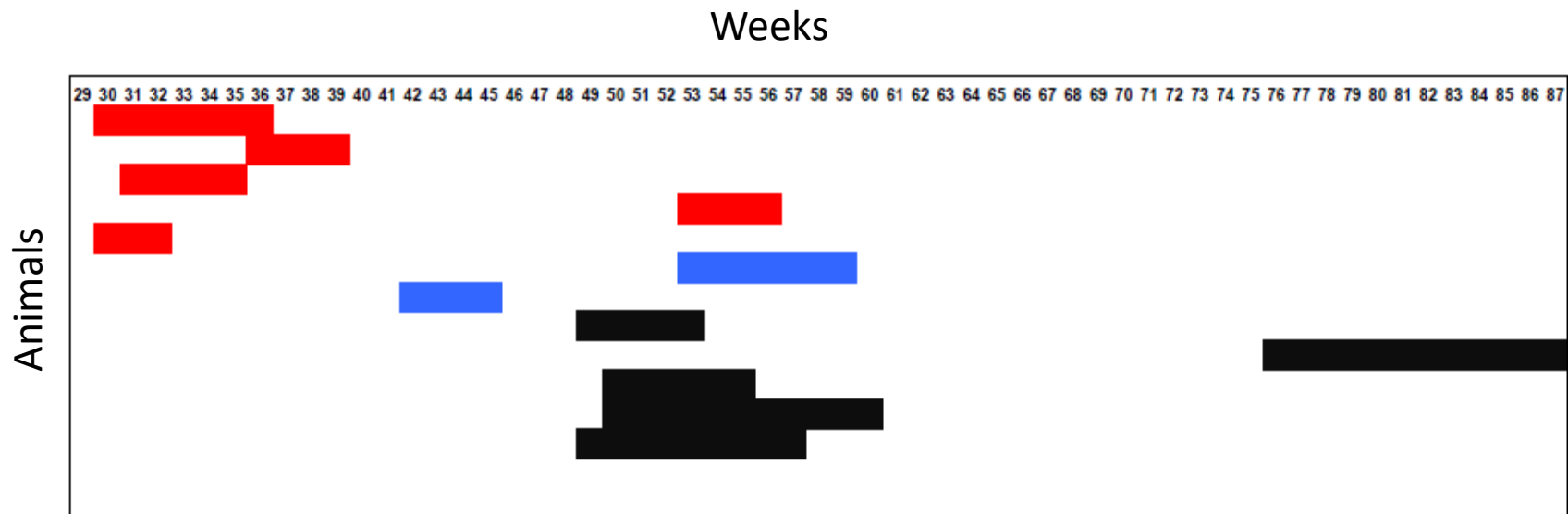
breast, total samples=4485



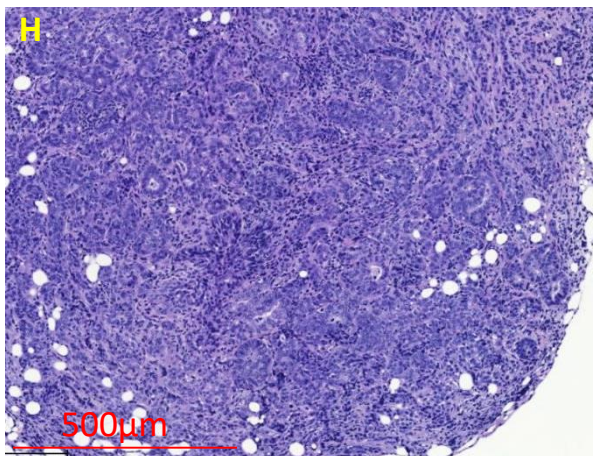
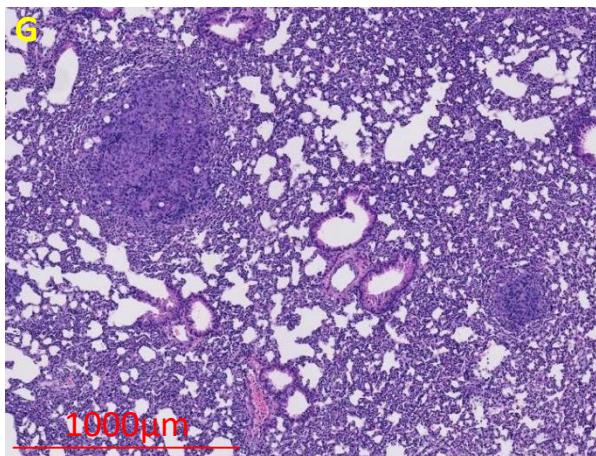
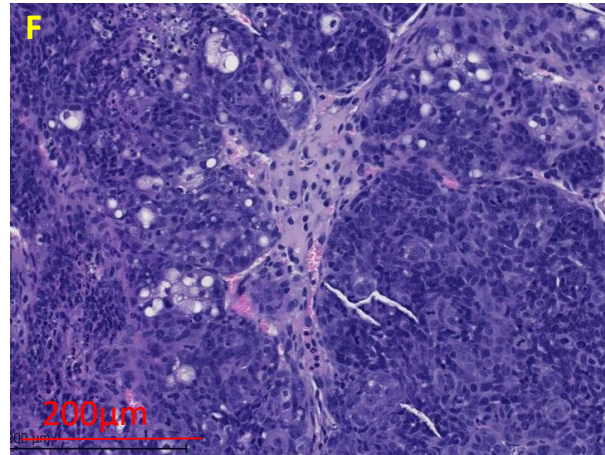
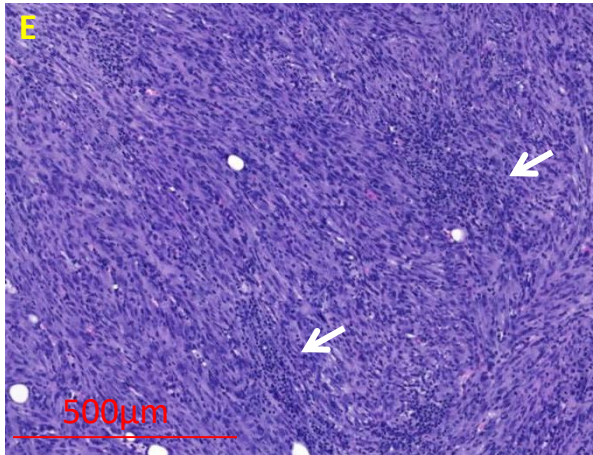
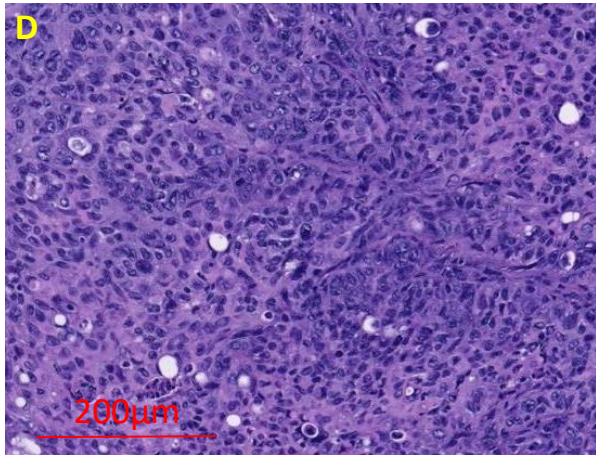
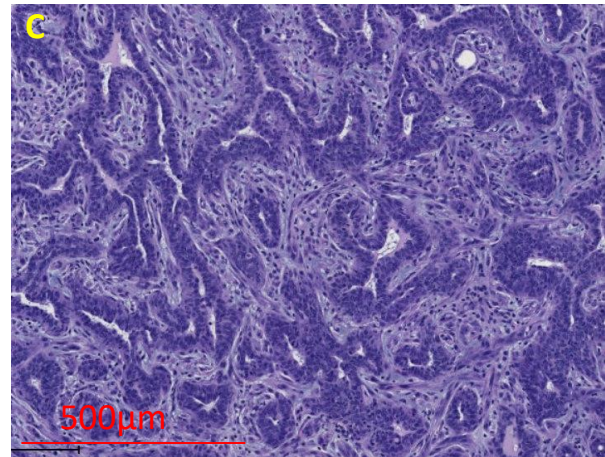
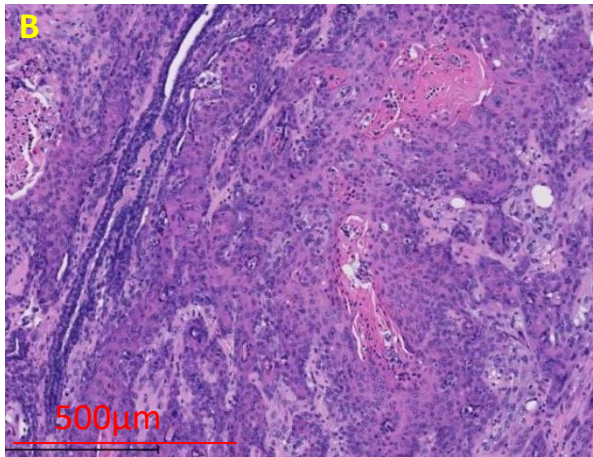
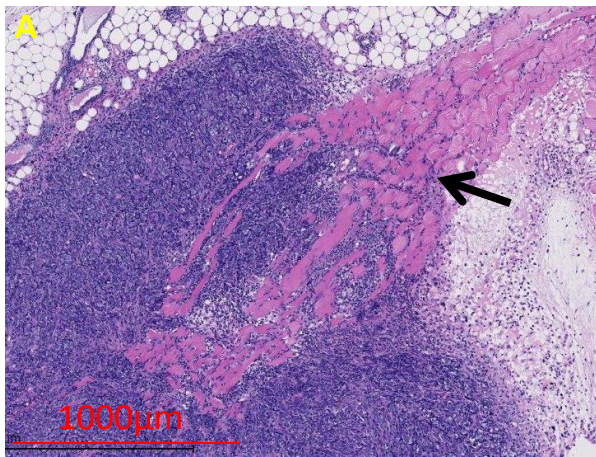
C

PIK3CA mutation =1389

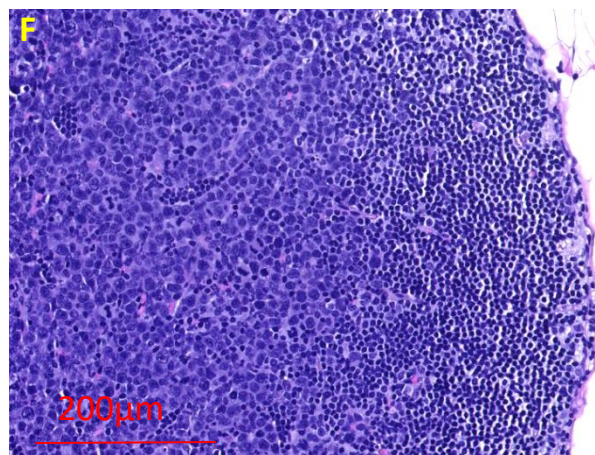
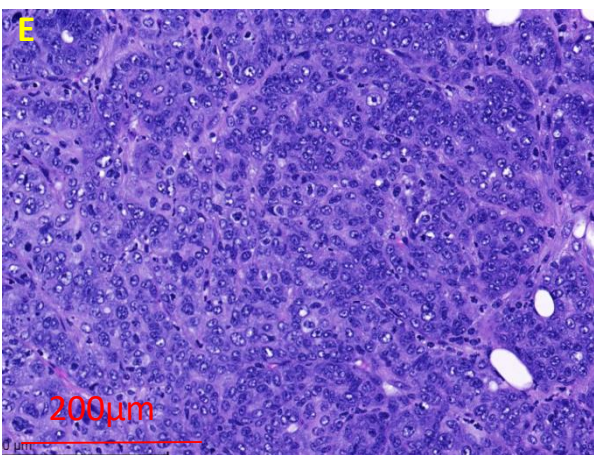
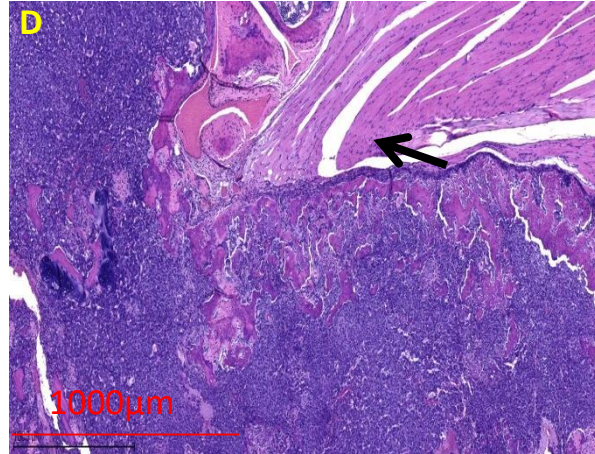
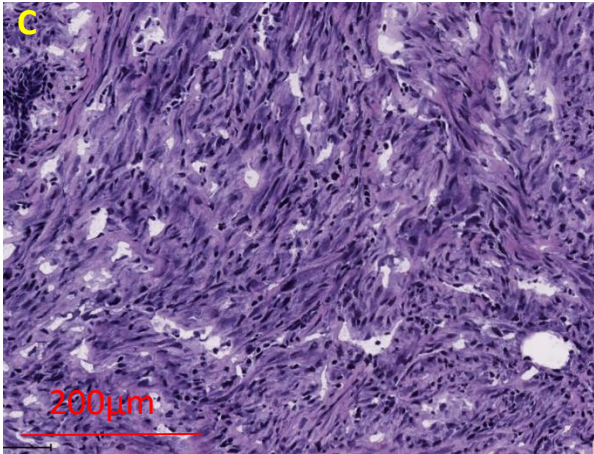
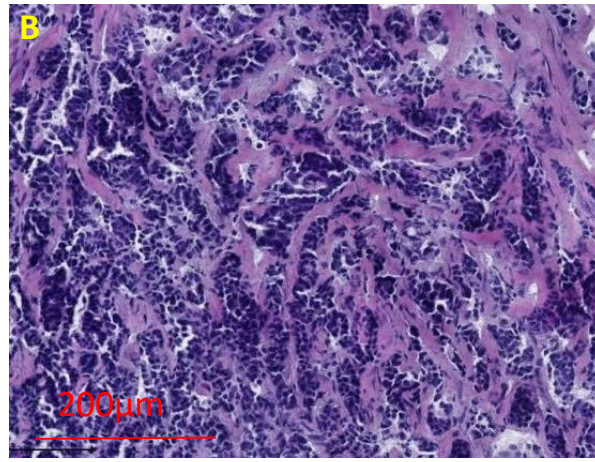
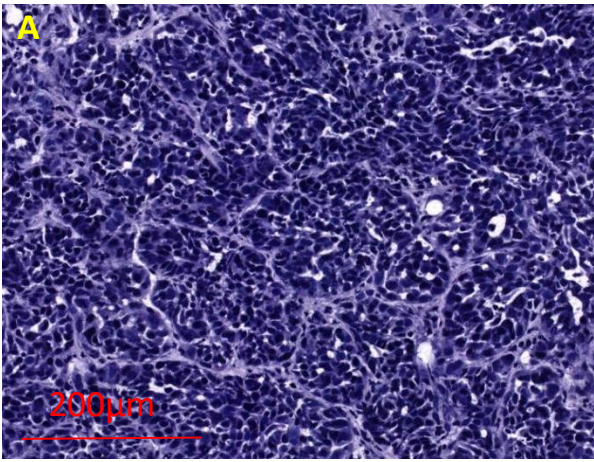




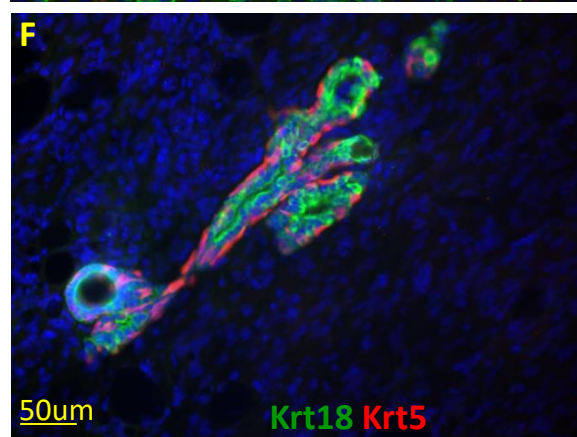
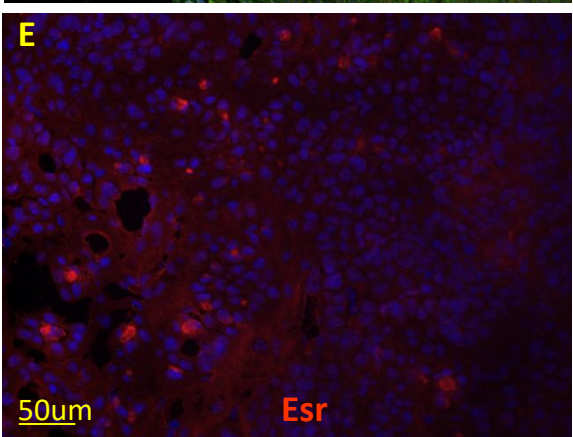
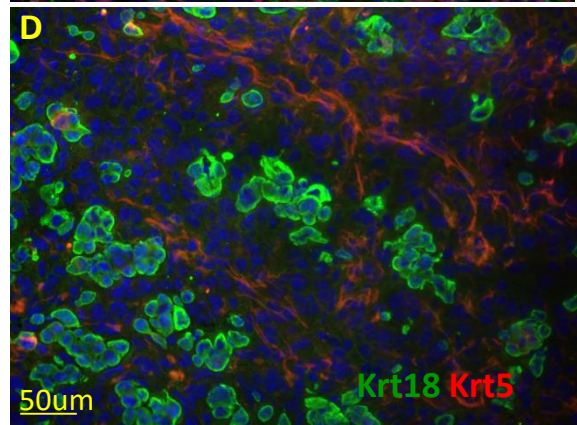
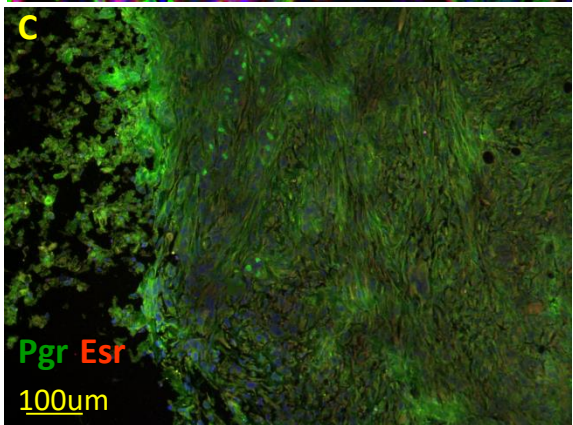
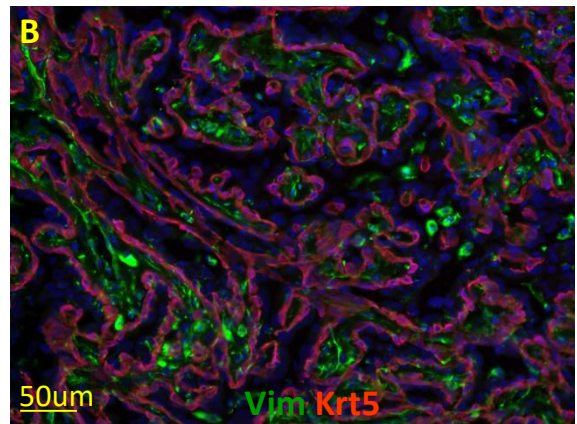
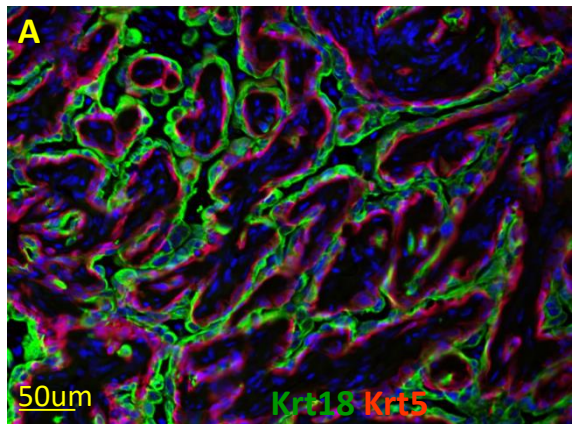
■ *Pik3ca*H1047R;*Trp53*R270H;*MMTV-cre*
■ *Pik3ca*H1047R;*MMTV-cre*
■ *Trp53*R270H;*MMTV-cre*

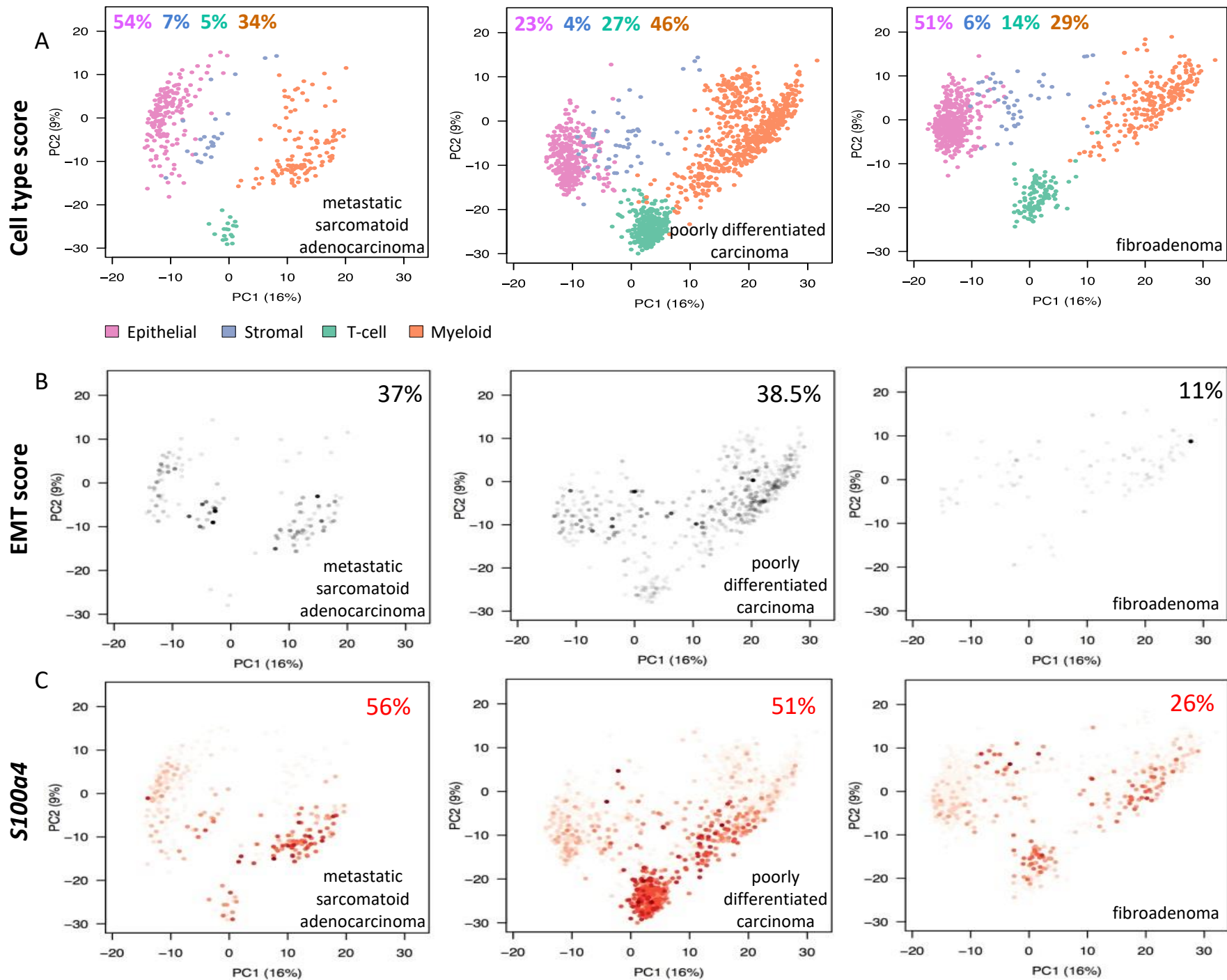


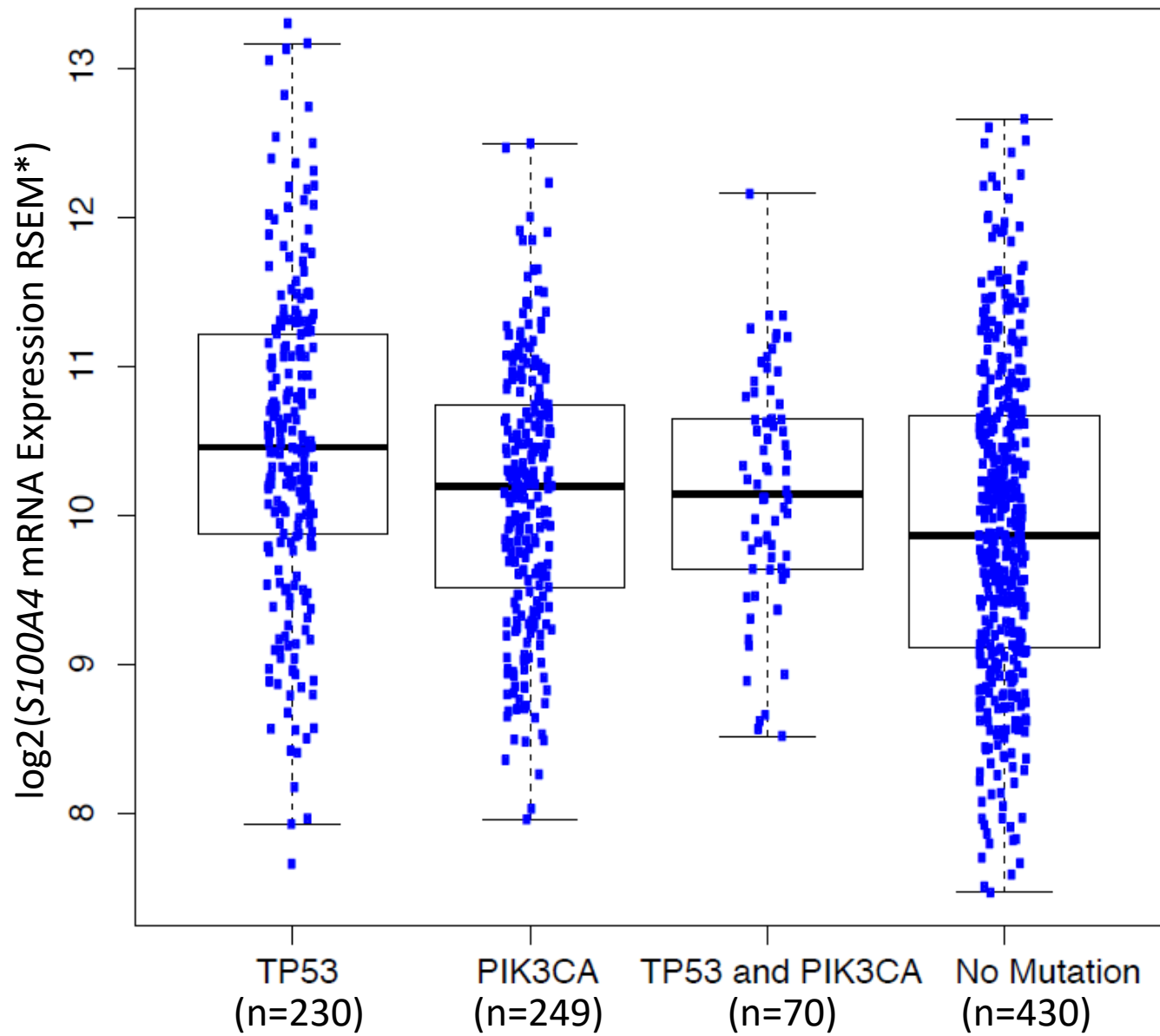
Supplementary Figure 4

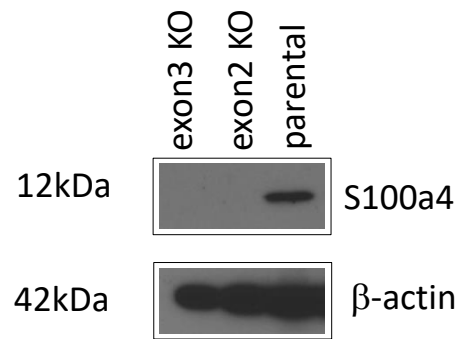


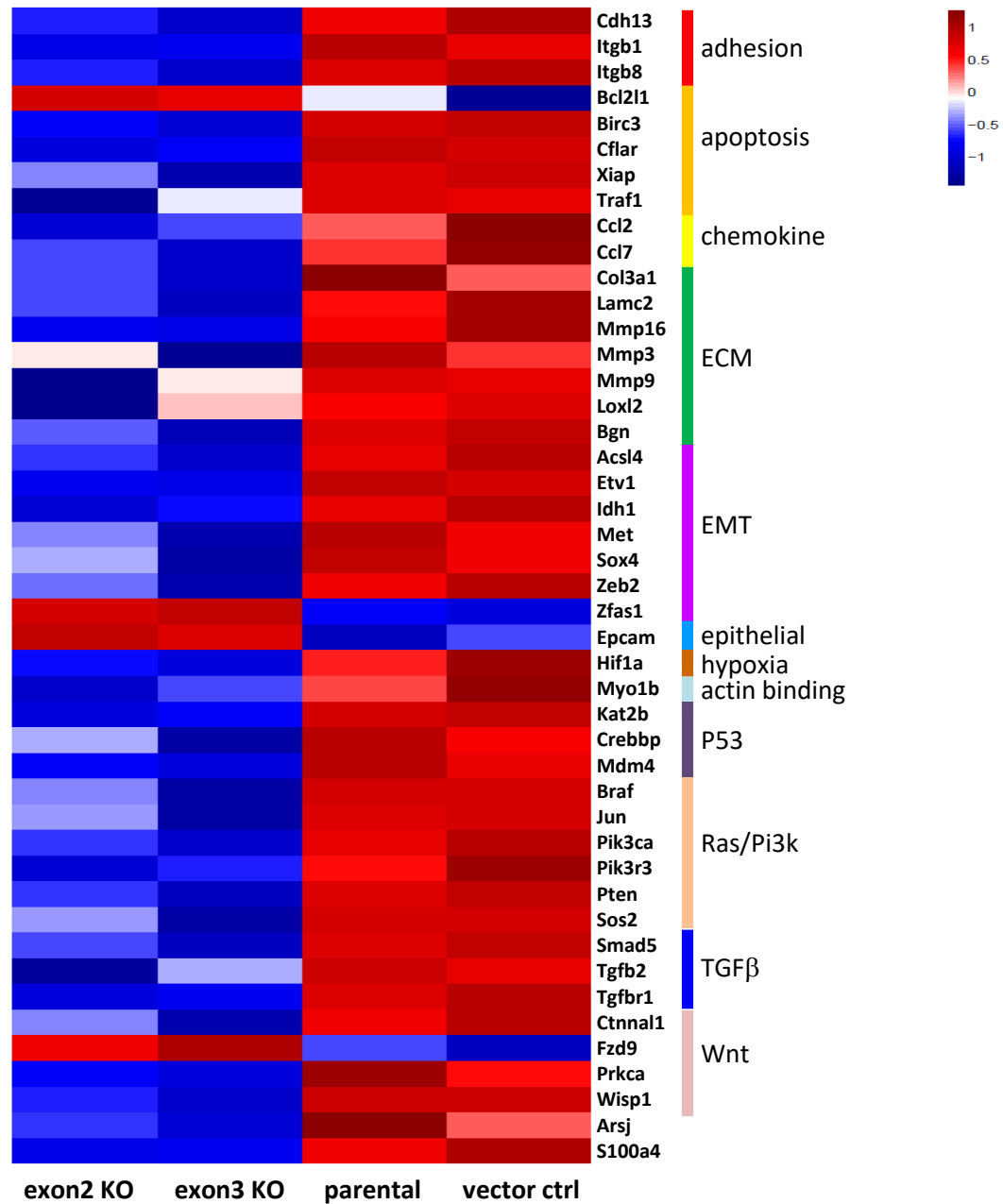
Supplementary Figure 5











Supplementary Figure 10

Supplementary Table 1. Summary of allelic frequency in the *S100a4* knockout lines

	exon2 KO	exon3 KO	outcome
wt	6.8%	0.1%	
del 1bp	37.7%	49.4%	truncation of protein
del 2bp	3.1%	23.2%	truncation of protein
del 3bp	0.6%	8.9%	delete 1 amino acid
del 4bp		12.8%	truncation of protein
del 12bp		5.2%	delete 4 amino acids
del 15bp	51.9%		delete 5 amino acids
total deletion	93.2%	99.9%	