

Quantifying Tip60 (Kat5) stratifies breast cancer.

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Supplemental figures and legends.

Supplemental Figure 1. A. Tip60 IHC staining in Control cell line (MCF10A) and indicated Breast Cancer Cell lines. Left, full size image; Right, 5x magnification. Blue: DNA counter stain, Orange/Brown: Tip60 staining. **B.** IHC Negative control. Staining performed using Tip60 antibody PAB18305 (Abnova).

Supplemental Figure 2. Additional examples of Tip60 IHC staining in breast tumour samples (Supplementary to Figure 2B). Image Pairs: Top image: full stained TMA. Bottom image: 12x magnification of tumour. Blue: DNA stain, Orange/Brown: Tip60 staining (Tip60 antibody K-17: sc-5727, Santa Cruz).

Supplemental Figure 3. Tip60 staining of invasive breast cancer tumour with second Tip60 antibody (Abnova). Blue: DNA stain, Orange/Brown: Tip60 staining. Staining performed using Tip60 antibody PAB18305 (Abnova).

Supplemental Figure 4. A. Tip60 staining patterns observed in TMA (percent). **B.** Tip60 staining patterns by percent of Luminal A cohort.

Supplemental Figure 5. A. Tip60 staining patterns observed, by tumour grade. **B.** Tip60 staining patterns observed, by Union for International Cancer Control (UICC) tumour stage.

Supplemental Figure 6. A. Tip60 staining patterns observed by ER positivity. **B.** Percent of cytoplasmic only Tip60 staining, ER positivity.

Supplemental Figure 7. A. Tip60 staining patterns observed by PR positivity. **B.** Nuclear Tip60 staining positivity by PR status.

Supplemental Figure 8. A. Nuclear Tip60 staining positivity by menopausal status.

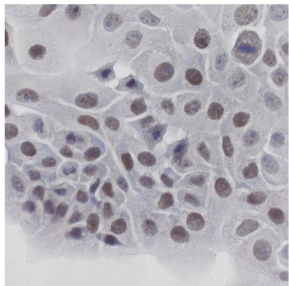
Supplemental Figure 9. A. Univariate complete-case Cox proportional hazard (CPH) regression modeling association with: **A.** Subtype (n=227). **B.** Tumour size. **C.** Stage (n=296). **D.** Age.

Supplemental Figure 10. A. Complete-case CPH modeling (n=185) of OS and Cyto-Only percentage. **B.** Imputed-data CPH modeling for OS using Subtype, Stage and Age (n=334). **C.** Complete-case CPH modeling for DFS (n=174) using Cyto-Only percentage, Total Cyto percentage, Nuc, Subtype, NPI, Stage, and Menopause status explain variability in DFS outcome.

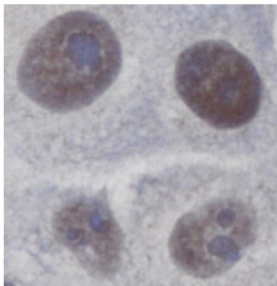
Supplemental Figure 11. A. Allelic changes observed (change, % and n indicated) in Kat5 gene in breast cancer cases. Using cBioPortal with individual Breast cancer studies indicated. **B.** Tip60 mutations observed in breast cancer, in cBioPortal.

A

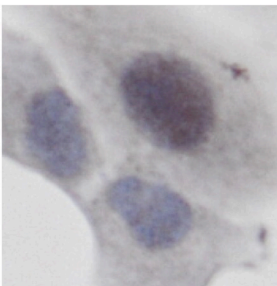
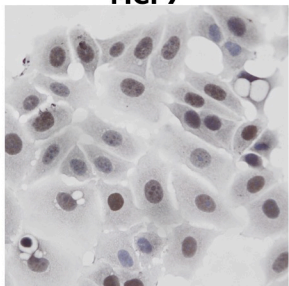
MCF10A

20 μ M

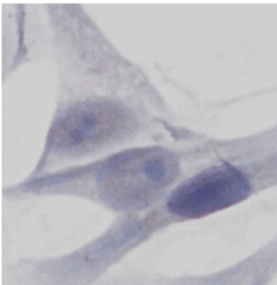
x5

10 μ M

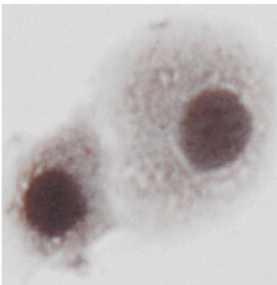
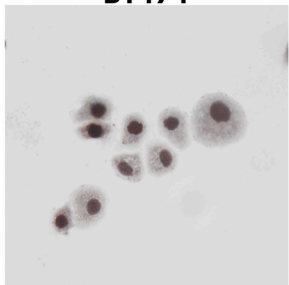
MCF7



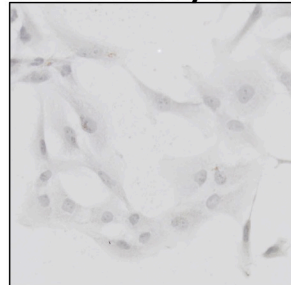
MDA MB 231

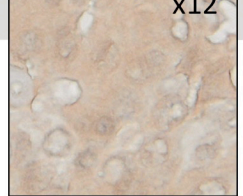
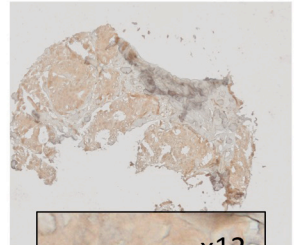
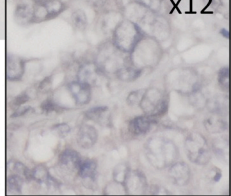
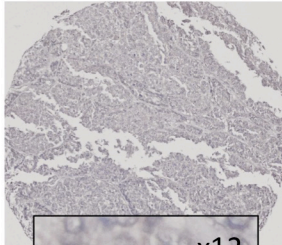
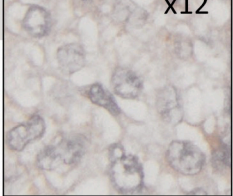
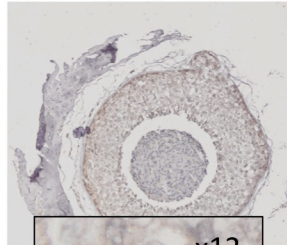
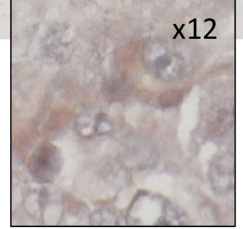
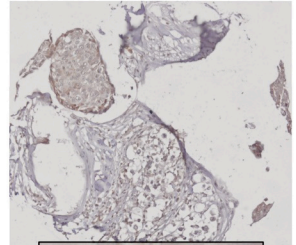
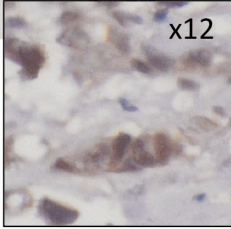
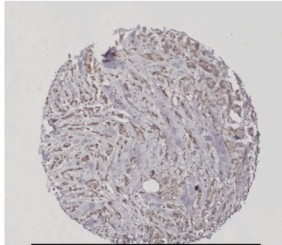
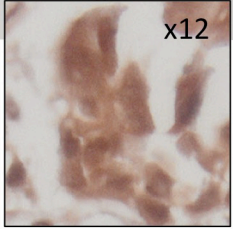
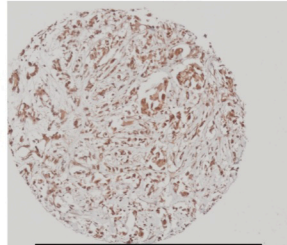
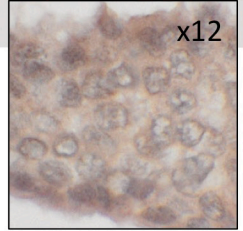
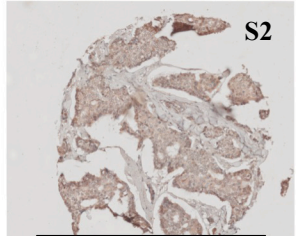
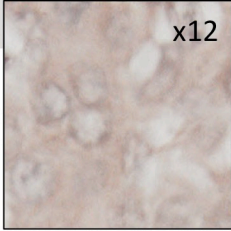
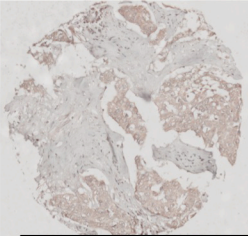
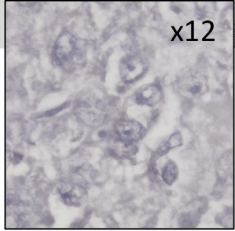
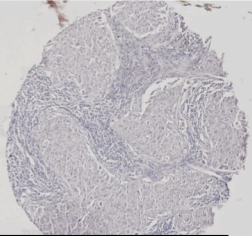


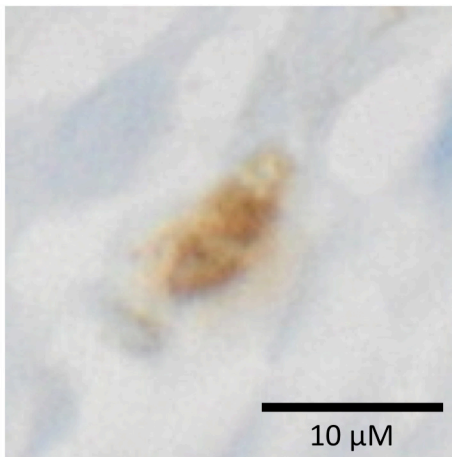
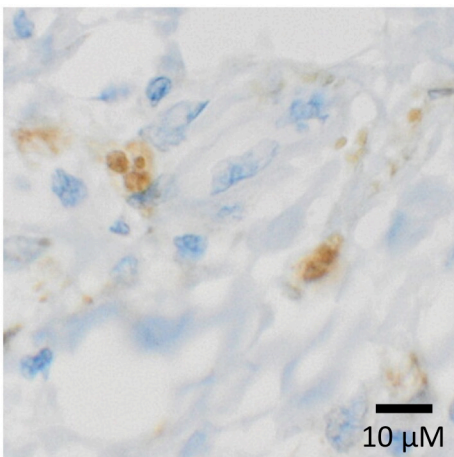
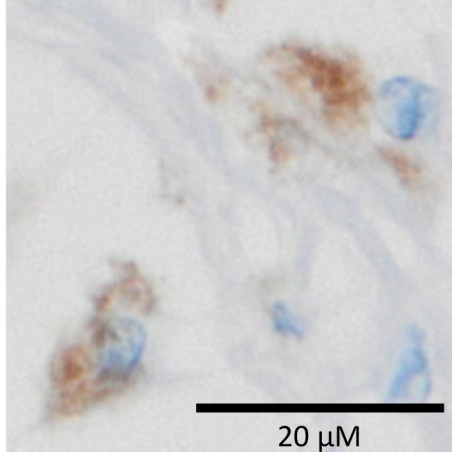
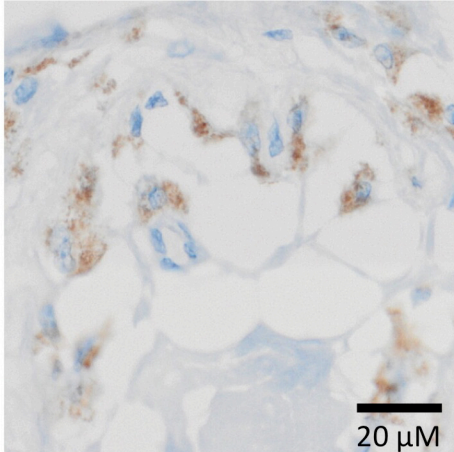
BT474

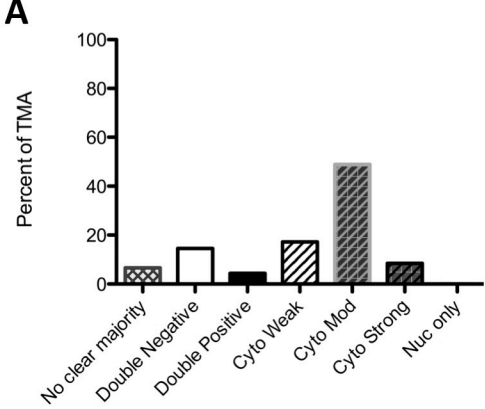


B

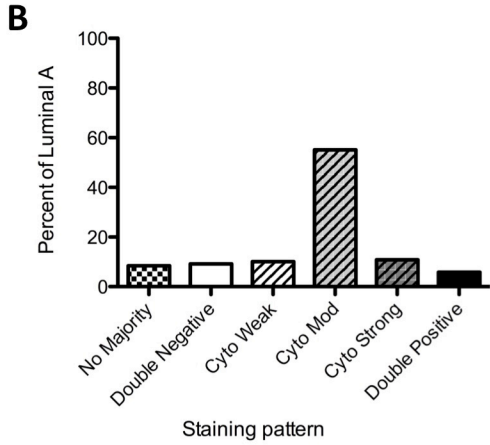
Negative Control
2ndry antibody alone



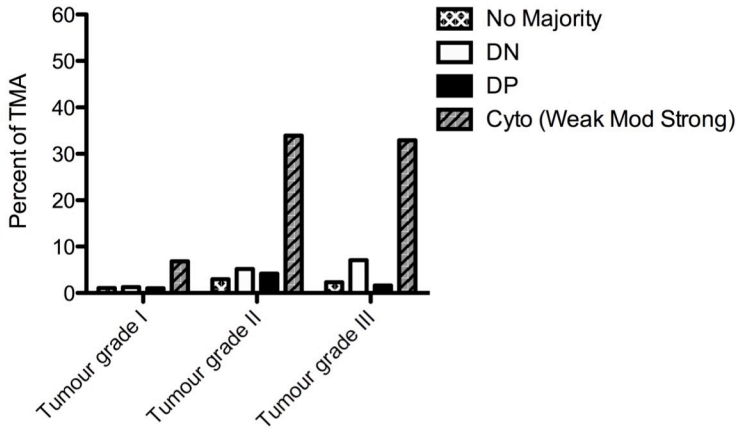




Tip60 Staining pattern- majority of cells in section

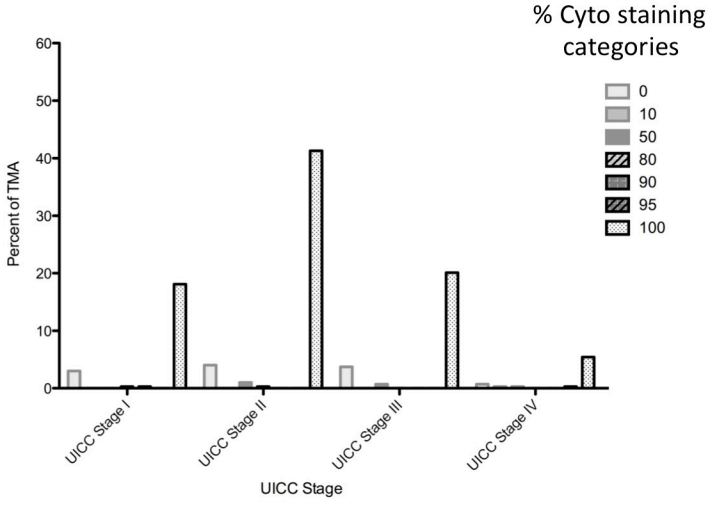


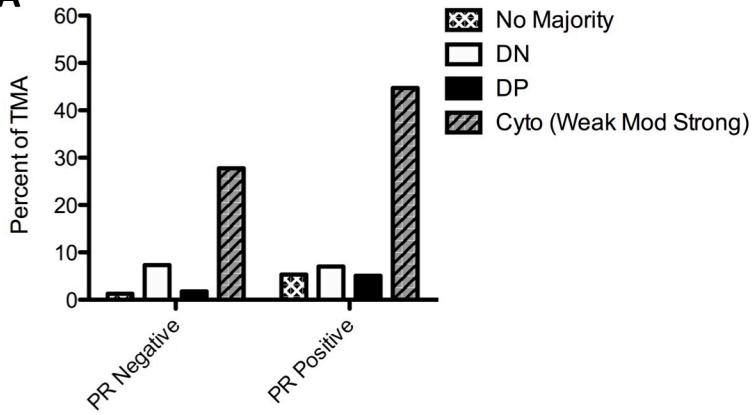
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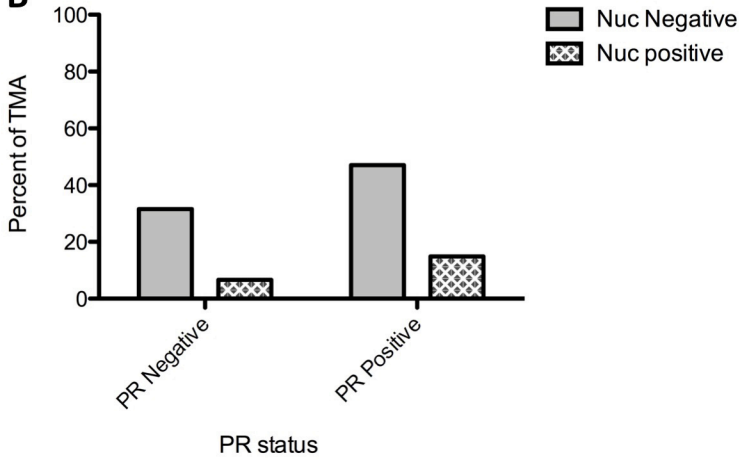
Majority staining pattern by Tumour Grade

B

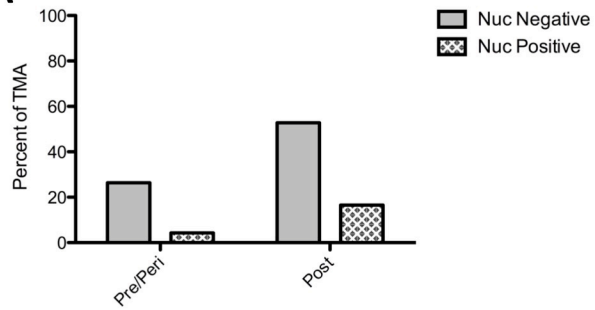


A

Majority staining pattern by PR status

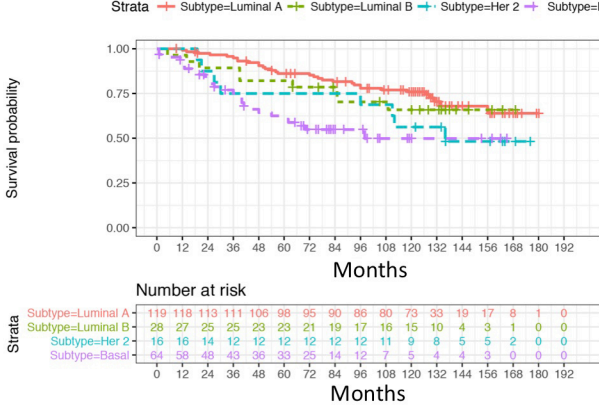
B

PR status

A**S8**

Nuclear staining pattern by menopausal status

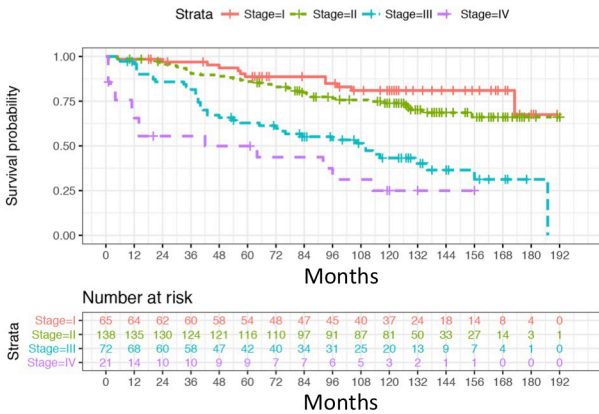
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B

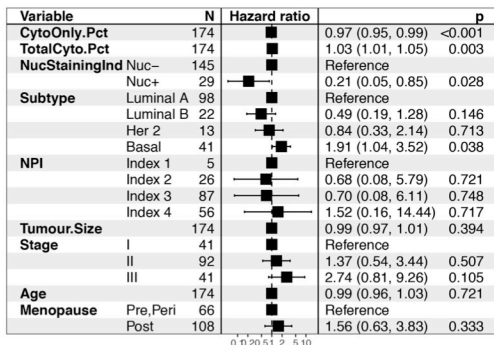
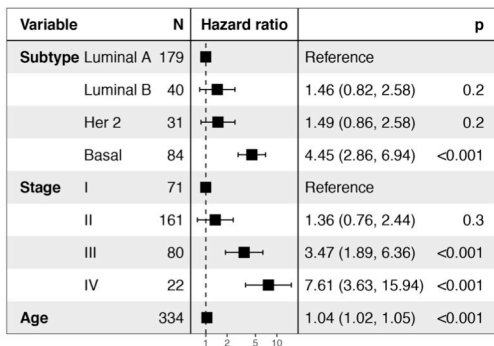
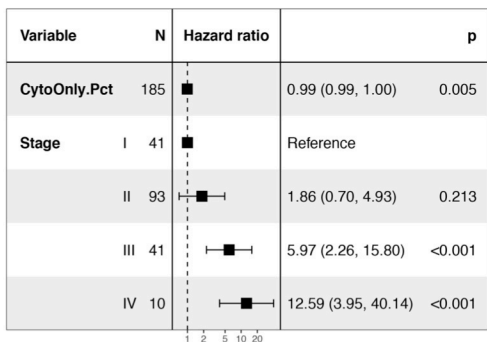
Overall Survival Time	
	HR(95 perc CI)
Tumour.Size	1.020*** (1.011, 1.029)
Observations	316
<i>Note:</i> *p<0.1; **p<0.05; ***p<0.01	

C

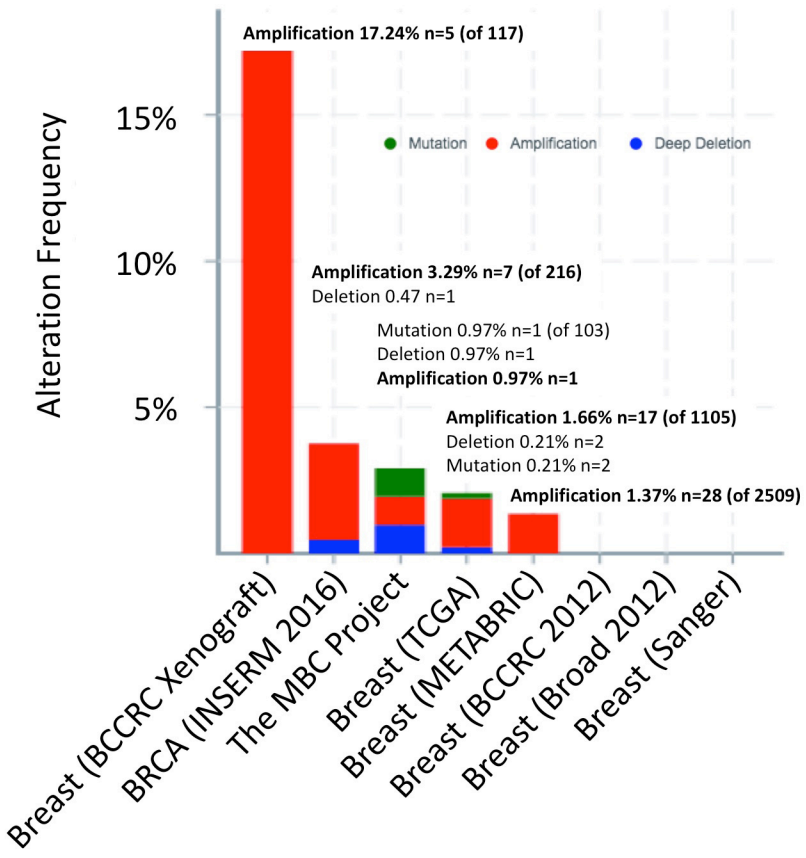


D

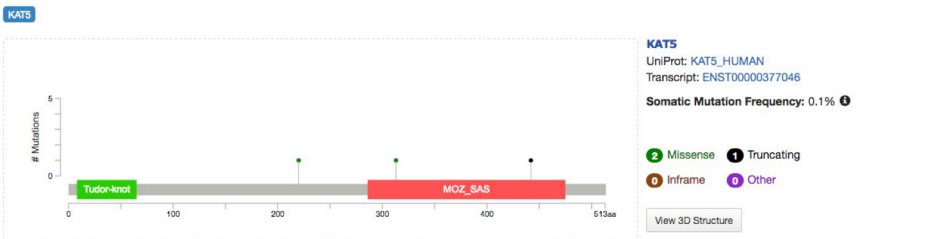
Overall Survival Time	
	HR(95 perc CI)
Age	1.039*** (1.025, 1.054)
Observations	334
<i>Note:</i> *p<0.1; **p<0.05; ***p<0.01	



A



B

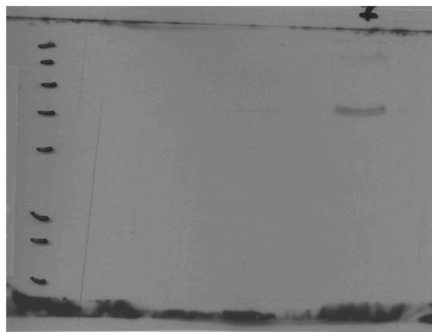


3 Mutations (page 1 of 1)

Study	Sample ID	Protein Change	Annotation	Mutation Type	Copy #	COSMIC	Allele Freq (T)	# Mut in Sample
The Metastatic B...	MBC-MBCProject_5...	S313F	○	Missense	Gain			694
Breast Invasive ...	TCGA-A2-A0D1-01	R220Q	○	Missense	Diploid		0.21	58
Breast Invasive ...	TCGA-BH-A18P-01	X442_splice	○	Splice	ShallowDel		0.38	271

MDA MB 231
MDA MB 468
MCF7
T47D
SK-BR3
+ ve control

Tip60



β -Tubulin

