

**Supplementary File 2: Principal Component Analysis of TMA data.**

**Correlation Matrix**

		MUC1	GATA3	ER status	PR status	Histology	Tumor grade	Lymph node
Kendall's tau-b	MUC1							
	GATA3	<b>.440</b>						
	ER status	-.025	<b>.530</b>					
	PR status	.037	<b>.506</b>	<b>.700</b>				
	Histology	-.073	-.009	-.095	-.004			
	Tumor grade	-.041	<b>-.490</b>	<b>-.668</b>	<b>-.528</b>	.108		
	Lymph node	<b>.462</b>	.099	.063	-.031	.139	.061	
p value	MUC1							
	GATA3	<b>.011</b>						
	ER status	.385	<b>.000</b>					
	PR status	.334	<b>.001</b>	<b>.000</b>				
	Histology	.197	.456	.133	.480			
	Tumor grade	.318	<b>.002</b>	<b>.000</b>	<b>.000</b>	.103		
	Lymph node	<b>.006</b>	.124	.229	.357	.052	.238	

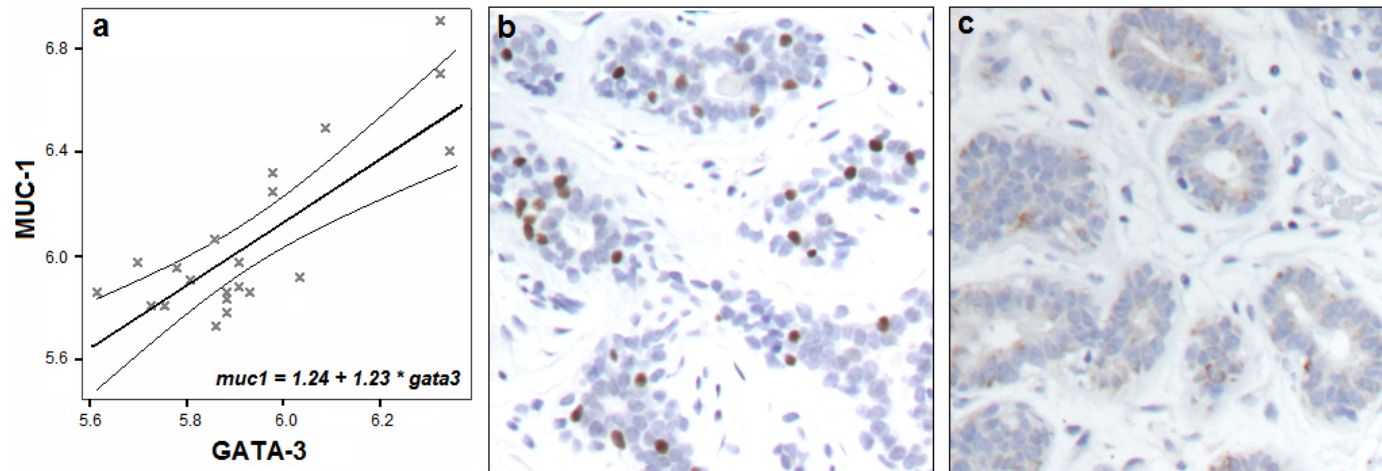
Color code:

Statistical significant positive correlations

Statistical significant negative correlations

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.042	29.165	29.165	2.042	29.165	29.165	2.005	28.643	28.643
2	1.293	18.476	47.641	1.293	18.476	47.641	1.291	18.441	47.084
3	1.064	15.195	62.835	1.064	15.195	62.835	1.103	15.752	62.835
4	.790	11.284	74.119						
5	.708	10.110	84.230						
6	.683	9.756	93.986						
7	.421	6.014	100.000						



**Supplementary figure.** GATA3 and MUC1 immunohistochemical staining in normal breast samples.

- a) Linear regression analysis between both markers with 95% mean prediction interval ( $r=0.78$ ,  $p=0.001$ );
- b) GATA3 nuclear positive immunostaining; c) MUC1 apical cytoplasmic immunostaining.