Supplementary Figure 1

Spearman correlation distribution: tumour samples
Proportion of negative: 0.59
Survival probability

$p = 0.01$

PC2 cut-off = 0.095

Lower PC2
Higher PC2

PC2 gene_group=lower  gene_group=higher

Supplementary Figure 2
Samples grouped according to CpGs from 164 genes

Color Key

0.2 0.4 0.6 0.8 Beta value

Basal
Her2
LumA
LumB
Normal
NA
Positive
Negative

Supplementary Figure 3
**Supplementary Figure 4**

**A**

RNAseq

**B**

**C**

ZNF154-cg01268824

- Overall survival (%)
- Time (months)
- Hazard ratio
- No. at risk
  - Low methylation
  - High methylation
- HR: 1.693
- Log-rank p-value: 0.0097
- 0.5
- 1
- 2
- 5

**D**

HOXD9-cg22674699

- Overall survival (%)
- Time (months)
- Hazard ratio
- No. at risk
  - Low methylation
  - High methylation
- HR: 1.578
- Log-rank p-value: 0.0286
- 0.5
- 1
- 2
- 5

**E**

ZNF154-cg01268824

- Hazard ratio
- Cpg
- ER status
- Postoperative
- HR (95% CI)
- p-value

**F**

HOXD9-cg22674699

- Hazard ratio
- Cpg
- ER status
- Postoperative
- HR (95% CI)
- p-value
### Supplementary Figure 5

#### A - PRAC2- cg12374721

- **CpG**
  - (N=783) 0.68 reference
  - (N=169) 3.05 (0.44 - 1.0)

- **HR (95% CI)**
  - **p-value** 0.078

- **# Events: 95; Global p-value (Log-Rank): 0.026096**
- **AIC: 1018.31; Concordance Index: 0.63**

#### B - TDRD10- cg18081940

- **CpG**
  - (N=783) 2.61 (1.08 - 6.3)

- **HR (95% CI)**
  - **p-value** 0.033 *

- **# Events: 95; Global p-value (Log-Rank): 0.015938**
- **AIC: 1017.32; Concordance Index: 0.64**

#### C - TMEM132C- cg04475027

- **CpG**
  - (N=783) 2.51 (1.06 - 5.3)

- **HR (95% CI)**
  - **p-value** 0.032 *

- **# Events: 95; Global p-value (Log-Rank): 0.015938**
- **AIC: 1017.32; Concordance Index: 0.64**
Supplementary Figure 6