

Table S1. Mutation types in the top three genes\*

<i>Type</i>	<i>PIK3CA</i>	<i>TP53</i>	<i>GATA3</i>
Frame_Shift_Del	0	33	14
Frame_Shift_Ins	2	13	45
In_Frame_Del	13	5	0
In_Frame_Ins	1	0	0
Missense	273	158	6
Nonsense	0	35	0
Silent	4	3	1
Splice_Site	0	18	20
<i>Total</i>	<i>293</i>	<i>265</i>	<i>86</i>

\* The mutation types are summarized here based on the 720 TCGA breast cancer cases.

\* The original data in variant call format are downloaded from the TCGA data portal (<https://tcga-data.nci.nih.gov/>).