

SUPPLEMENTARY TABLES

Supplementary Table 1. Relationship between FMO2 and clinical parameters of breast cancer.

Variables	TCGA			SCAN-B		
	Patient number	FMO2 log2 standardized expression	P	Patient number	FMO2 log2 standardized expression	P
Nature of the tissue			< 0.0001			
Healthy	92	6.8560/ 0.7884				
Tumor-adjacent	89	6.5792/ 0.7530				
Tumor	743	2.8594/ 1.5755				
ER status			< 0.0001			< 0.0001
ER+	530	0.6034/1.7245		3155	-0.0411/0.9834	
ER-	187	1.3099/1.9443		323	0.2857/1.0738	
PR status			0.0106			0.0006
PR+	470	0.6576/1.7180		2842	-0.0337/0.9786	
PR-	243	1.0391/1.9598		503	0.1435/1.0771	
ER and PR status combinations			0.0002			< 0.0001
ER+/PR+	456	0.6589/1.7154		2806	-0.0382/0.9787	
ER+/PR-	71	0.2465/1.7630		212	-0.0454/1.0285	
ER-/PR+	14	0.6162/1.8678		31	0.2993/0.9009	
ER-/PR-	171	1.3649/1.9536		291	0.2812/1.0924	
HER2 status			< 0.0001			< 0.0001
HER2-	396	1.0139/1.7922		3050	0.0203/1.0122	
HER2+	109	0.2601/1.6170		506	-0.1702/0.9061	
Histological types			< 0.0001			
IDC	549	0.6718/1.7653				
ILC	116	1.6604/1.5374				
IDC & ILC	23	1.0332/1.7440				
Mucinous	13	0.8664/1.5635				
Pathological tumor stage			0.0067			
I	145	0.9529/1.7012				
II	440	0.6213/1.8253				
III	152	2.5408/1.8054				
Age status			0.0005			0.0004
≤ 51 years old	267	1.0975/1.8517		754	0.1071/0.9819	
> 51 years old	476	0.6083/1.7544		2519	-0.0390/1.0031	
PAM50 subtypes			< 0.0001			< 0.0001
Basal-like	136	1.6678/1.9598		616	0.3294/1.0238	
HER2-E	51	0.2343/1.5514		581	-0.3446/0.7821	
Luminal A	268	1.3893/1.5733		1088	0.0291/0.8487	
Luminal B	281	-0.1737/1.4615		825	-0.6875/0.8235	
Normal breast-like	0			539	0.9795/0.7175	
Basal-like (PAM50)			< 0.0001			< 0.0001
Non-basal-like	605	0.5807/1.7072		3033	-0.0685/0.9841	
Basal-like	136	1.6678/1.9598		616	0.3294/1.0238	
Triple-negative breast cancer			< 0.0001			< 0.0001
Non-TNBC	578	0.5983/1.7324		3309	-0.0392/0.9805	
TNBC	87	1.6091/1.9075		206	0.3626/1.1298	
TNBC & Basal-like (PAM50)			< 0.0001			< 0.0001
Non-basal-like & non-TNBC	552	0.5724/1.7088		2951	-0.0759/0.9824	
Basal-like & TNBC	71	1.7482/1.9278		170	0.3937/1.1218	
Ki67 status						< 0.0001
Ki67-low				798	0.2500/0.9643	
Ki67-high				1157	-0.1350/1.0077	

Scarff Bloom & Richardson grade status			< 0.0001
SBR1	544	0.3039/0.9245	
SBR2	1699	0.0600/0.9757	
SBR3	1374	-0.2030/1.0229	
Nottingham Prognostic Index status			< 0.0001
NPI1	1173	0.1569/0.9412	
NPI2	1525	-0.0777/1.0473	
NPI3	416	-0.2154/0.9407	

Supplementary Table 2. The top 10 correlation genes with FMO2 in breast cancer.

Gene chip data							
Positive correlations with FMO2				Negative correlations with FMO2			
Gene symbol	Pearson's correlation coefficient	P	Patient number	Gene symbol	Pearson's correlation coefficient	P	Patient number
SFRP1	0.556	< 0.0001	8245	FAM136BP	-0.5519	< 0.0001	53
SAA2-SAA4	0.542	< 0.0001	481	COX7BP1	-0.4607	2.00E-04	59
KRT16P6	0.5272	< 0.0001	381	SNORD66	-0.4563	6.00E-04	53
LINC02613	0.5268	< 0.0001	381	SNORA2C	-0.4551	6.00E-04	53
KRT17P1	0.512	< 0.0001	381	SNORD99	-0.454	6.00E-04	53
CHL1-AS2	0.5093	< 0.0001	381	DHX40P1	-0.4536	6.00E-04	53
KRT16P2	0.5071	< 0.0001	564	COMMD3-BMI1	-0.4369	< 0.0001	100
CRYAB	0.5059	< 0.0001	8245	FAM138B	-0.4124	< 0.0001	171
SPECC1L-ADORA2A	0.5045	< 0.0001	139	SNORD3A	-0.407	0.0025	53
CHRDL1	0.503	< 0.0001	7950	ELOCP2	-0.4039	< 0.0001	100
RNA-sequence data							
Positive correlations with FMO2				Negative correlations with FMO2			
Gene symbol	Pearson's correlation coefficient	P	Patient number	Gene symbol	Pearson's correlation coefficient	P	Patient number
CHRDL1	0.6938	< 0.0001	4421	PAFAH1B3	-0.4036	< 0.0001	4421
SFRP1	0.6843	< 0.0001	4421				
IL33	0.6767	< 0.0001	4421				
TSHZ2	0.6742	< 0.0001	4421				
FREM1	0.6739	< 0.0001	4421				
ABCA6	0.6692	< 0.0001	4421				
BOC	0.6672	< 0.0001	4421				
LINC01140	0.6619	< 0.0001	4016				
ABCA8	0.6614	< 0.0001	4421				
ABCA9	0.6588	< 0.0001	4421				