

Additional file 2: GES list, characteristics, bioinformatics and references.

N°	GES name	n genes	n probes	Statistics	References
Molecular subtyping					
1	4-TNBC	80	-	Nearest centroid classifier	(S1)
2	AR	36	-	Weighted average expression	(S2)
3	Basal-like	-	37	Average expression	(S3)
4	CIT	-	375	Nearest centroid classifier	(S4)
5	Claudin-CD24	-	19	Average expression	(S3)
6	Claudin-low	807	-	Nearest centroid classifier	(S5)
7	ER	-	135	Weighted average expression	(S6)
8	ER-negative	813	-	Nearest centroid classifier	(S7)
9	ERBB2	-	4	Weighted average expression	(S6)
10	Molecular-apocrine	-	27	Average expression	(S3)
11	PAM50	50	-	Nearest centroid classifier	(S8)
12	TNBCtype	2188	-	Nearest centroid classifier	(S9)
Immune response					
13	B-cell	-	48	Average expression	(S3)
14	CIBERSORT	547	-	v-support vector regression with linear kernel	(S10)
15	CYT	-	2	Average expression	(S11)
16	IL-8	-	4	Average expression	(S3)
17	M2/M1	649	-	Weighted average expression	(S12)
18	M2/M1 (Becker)	164	-	Weighted average expression	(S13)
19	MHC-1	-	17	Average expression	(S3)
20	MHC-2	-	14	Average expression	(S3)
21	STAT1	-	14	Average expression	(S14)
22	T-cell	-	27	Average expression	(S3)
23	Type I IFN	-	14	Average expression	(S3)
Microenvironment cells					
24	Epithelial cells	207	-	Single-sample gene set enrichment analysis (ssGSEA)	(S15)
25	Fibroblasts	189	-	Single-sample gene set enrichment analysis (ssGSEA)	(S15)
26	Neurons	219	-	Single-sample gene set enrichment analysis (ssGSEA)	(S15)
Metabolisms					
27	Adipocytes	-	8	Average expression	(S3)
28	Glycolysis	6	-	Average expression	(S16)
29	IRGS	-	19	Weighted average expression	(S17)
Critical biological pathways in cancer					
30	AKT	379	-	Weighted average expression	(S18)
31	β -Catenin	-	98	Weighted average expression	(S19)
32	CIN	25	-	Average expression	(S20)
33	E2F3	-	298	Weighted average expression	(S19)
34	EGFR	27	-	Average expression	(S21)
35	HOXA	-	8	Average expression	(S3)
36	MITO/OXPPOS	38	-	average expression	(S22)
37	MYC	-	248	Weighted average expression	(S19)
38	p53	-	32	Weighted average expression	(S23)
39	PIK3CA	-	278	Weighted average expression	(S24)
40	PNI	-	24	Weighted average expression	(S25)
41	PRL	75	-	Average expression	(S26)
42	Proliferation	-	47	Average expression	(S3)
43	PTEN loss	246	-	Weighted average expression	(S27)
44	RAS	-	348	Weighted average expression	(S19)
45	Reactive stroma	-	47	Average expression	(S3)
46	SRC	-	73	Weighted average expression	(S19)
47	Stroma-CD10	12	-	Weighted average expression	(S28)
48	TGF β	-	55	Weighted average expression	(S29)
49	VEGF	-	7	Average expression	(S3)
50	Wound-response	459	-	Weighted average expression	(S30)
51	YAP1-WWTR1	24	-	Average expression	(S31)
Prognosis					
52	38-GES	38	-	Weighted average expression	(S32)
53	70-GES	70	-	Nearest centroid classifier	(S33)
54	GGI	-	128	Weighted average expression	(S34)

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