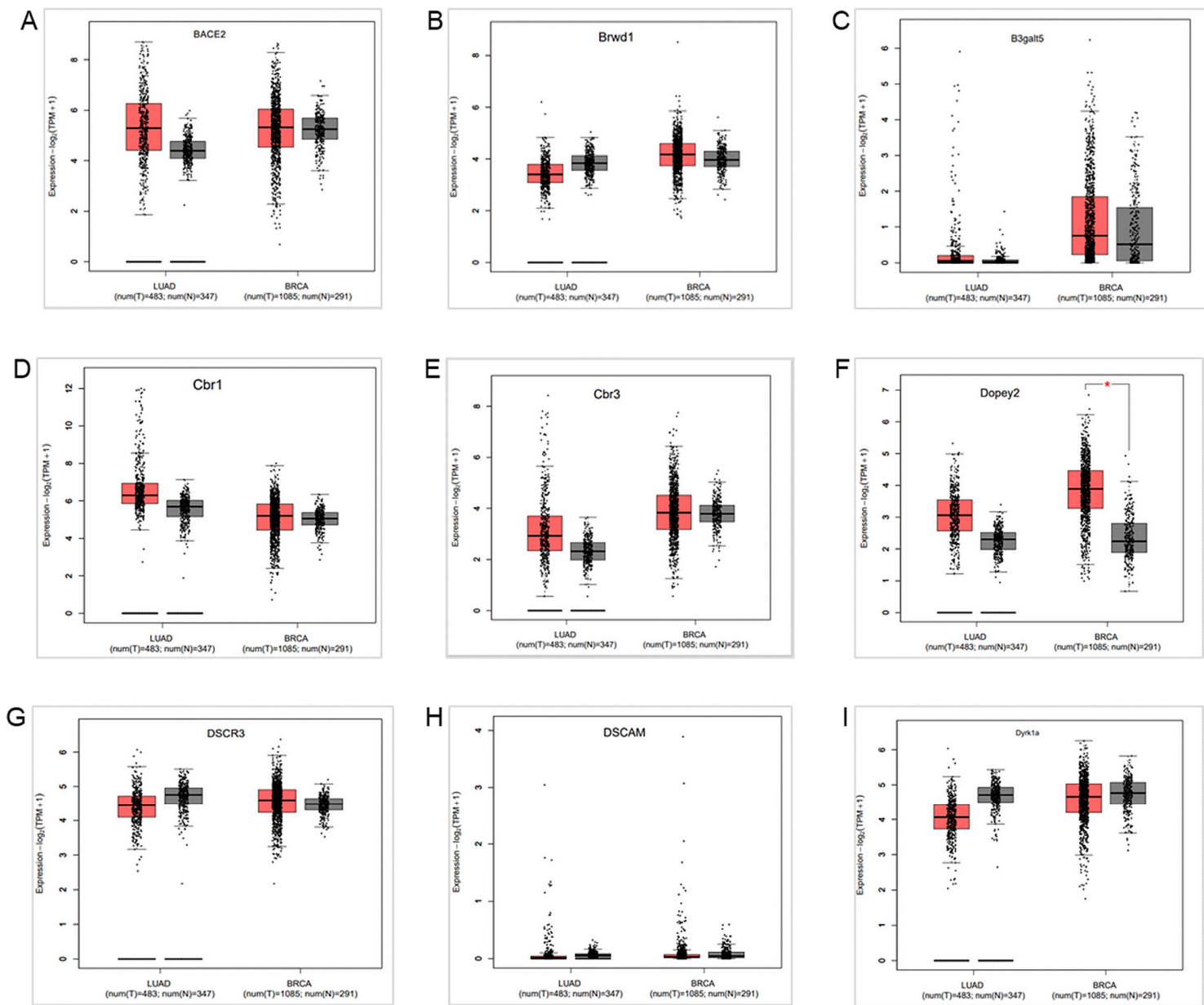
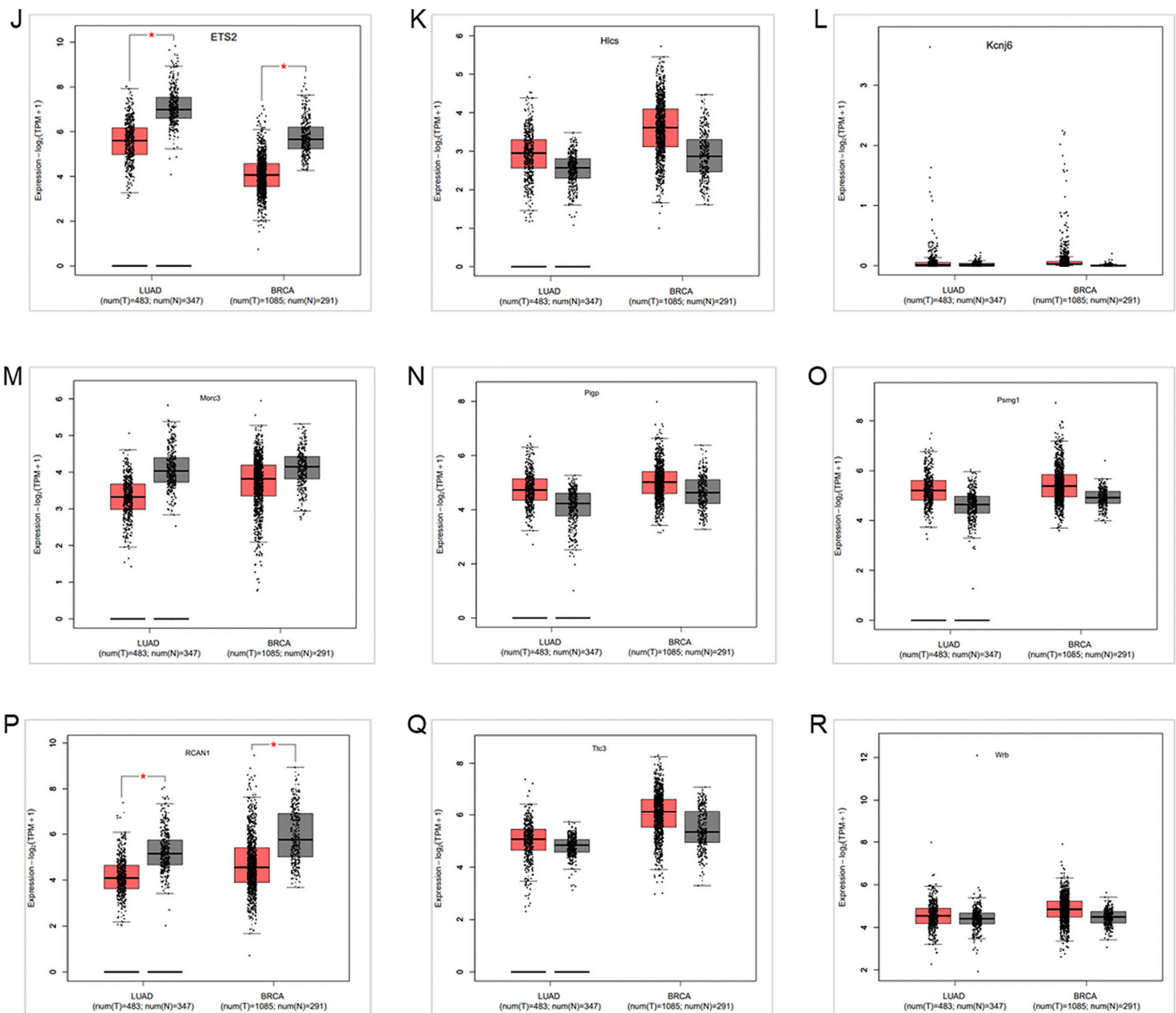


SUPPLEMENTARY DATA

Fosu *et al.* Inverse comorbidity between Down syndrome and solid tumors: Insights from *in silico* analyses of Down syndrome critical region genes.





Supplemental Figure S1. Differential expression of upregulated DSCR genes in breast and lung cancers. Boxplots represent mRNA expression of (A) Bace2, (B) Brwd1, (C) B3galt5, (D) Cbr1, (E) Cbr3, (F) Dopey2, (G) Dscam, (H) Dscr3, (I) Dyrk1a, (J) Ets2, (K) Hlcs, (L) Kcnj6, (M) Morc3, (N) Pigp, (O) Psmg1, (P) Rcan1, (Q) Ttc3 and (R) Wrb in breast and lung cancers. Red box: tumor samples, black box: normal samples, BRCA: breast invasive carcinoma, LUAD: lung adenocarcinoma, T: tumor, N: normal, P value < 0.01 , $|\text{Log2FC}| < 1$.

Supplemental Table S1. Survival of breast cancer patients based on expression of DSCR genes

Gene Symbol	Survival Mean		<i>P</i> value
	Low expression cohort (months)	High expression cohort (months)	
<i>Bace2</i>	148.53	122.3	0.0194
<i>Brwd1</i>	98.83	79.1	0.0633
<i>B3galt5</i>	129.1	131.37	0.0143
<i>Cbr1</i>	53.16	46	0.092
<i>Cbr3</i>	53.36	46	0.2473
<i>Dopey2</i>	228.85	191.21	0.6511
<i>Dscam</i>	36.9	40.3	0.1542
<i>Dscr3</i>	53.16	45.44	0.1238
<i>Dyrk1a</i>	131.97	122.3	0.274
<i>Ets2</i>	44.5	58.15	0.0008
<i>Hlcs</i>	215.2	115.37	0.0024
<i>Kcnj6</i>	142.23	115.4	0.1028
<i>Morc3</i>	248.5	116.4	0.0135
<i>Pigp</i>	219.77	115.37	0.0044
<i>Psmg1</i>	76	36.99	1E-15
<i>Rcan1</i>	43.44	58	0.0017
<i>Ttc3</i>	215.2	113.93	0.0415
<i>Wrb</i>	142.23	113.93	0.0028

Supplemental Table S2. Survival of lung cancer patients based on expression of DSCR genes

Gene Symbol	Survival Mean		<i>P</i> value
	Low expression cohort (months)	High expression cohort (months)	
<i>Bace2</i>	67	72.33	0.1963
<i>Brwd1</i>	47.37	50.03	0.1547
<i>B3galt5</i>	54.4	40.97	0.0165
<i>Cbr1</i>	53.33	45.23	0.2826
<i>Cbr3</i>	50.03	43.1	0.091
<i>Dopey2</i>	77.77	62.2	0.1069
<i>Dscam</i>	76	62.3	0.0354
<i>Dcr3</i>	80	62.3	0.0007
<i>Dyrk1a</i>	228.85	216.66	0.1444

<i>Ets2</i>	52	81	0.00001
<i>Hlcs</i>	54.07	42.93	0.3697
<i>Kcnj6</i>	50.93	38.23	0.0809
<i>Morc3</i>	42.27	57.5	0.0611
<i>Pigp</i>	50.03	47.37	0.2551
<i>Psmg1</i>	53.33	45.23	0.2217
<i>Rcan1</i>	54.3	79	0.000099
<i>Ttc3</i>	42.27	57.5	0.1386
<i>Wrb</i>	33.3	50.53	0.0225