

Supplementary Materials
Table S1. Effects of BCE on estradiol-regulated gene expression in TIG113 cells.

Gene Symbol	Gene Name	Fold Change
<i>IGFBP2</i>	insulin like growth factor binding protein 2	115.3
<i>IGF2</i>	insulin like growth factor 2	26.6
<i>WNT11</i>	Wnt family member 11	16.9
<i>AQP1</i>	aquaporin 1	16.7
<i>TTR</i>	transthyretin	14.2
<i>EGR2</i>	early growth response 2	12.3
<i>CLCA2</i>	chloride channel accessory 2	10.5
<i>WNT5A</i>	Wnt family member 5A	8.4
<i>PLXDC1</i>	plexin domain containing 1	7.7
<i>CRABP2</i>	cellular retinoic acid binding protein 2	7.6
<i>LTBP1</i>	latent transforming growth factor beta binding protein 1	7.5
<i>TH</i>	tyrosine hydroxylase	6.4
<i>SFRP1</i>	secreted frizzled related protein 1	6.2
<i>PK4</i>	pyruvate dehydrogenase kinase 4	5.9
<i>TACSTD2</i>	tumor associated calcium signal transducer 2	5.7
<i>TIMP3</i>	tissue inhibitor of metalloproteinase 3	5.7
<i>EGR1</i>	early growth response 1	5.2
<i>INHBA</i>	inhibin beta A subunit	5.0
<i>COLEC12</i>	collectin subfamily member 12	4.7
<i>ST8SIA1</i>	ST8 alpha-N-acetyl-neuraminide	4.4
<i>TRIB2</i>	tribbles pseudokinase 2	3.7
<i>TMEM2</i>	transmembrane protein 2	3.4
<i>PLAU</i>	plasminogen activator, urokinase	3.3
<i>SPRY1</i>	sprouty RTK signaling antagonist 1	3.1
<i>TIAM1</i>	T-cell lymphoma invasion and metastasis 1	3.1
<i>LOXL4</i>	lysyl oxidase like 4	3.0
<i>TFAP2C</i>	transcription factor AP-2 gamma	2.8
<i>NR2F1</i>	nuclear receptor subfamily 2 group F member 1	2.7
<i>NEDD9</i>	neural precursor cell expressed, developmentally down-regulated 9	2.7
<i>PTGER3</i>	prostaglandin E receptor 3	2.6
<i>TP53I11</i>	tumor protein p53 inducible protein 11	2.6
<i>CFB</i>	complement factor B	2.6
<i>FBLN1</i>	fibulin 1	2.6
<i>PENK</i>	proenkephalin	2.5
<i>HLA-DRB1</i>	major histocompatibility complex, class II, DR beta 1	2.4
<i>VEGFA</i>	vascular endothelial growth factor A	2.4
<i>CTGF</i>	connective tissue growth factor	2.3
<i>THBS4</i>	thrombospondin 4	2.2
<i>KLF10</i>	kruppel like factor 10	2.2
<i>IGFBP5</i>	insulin like growth factor binding protein 5	2.1
<i>MAOA</i>	monoamine oxidase A	2.1
<i>TGFB3</i>	transforming growth factor beta 3	2.1
<i>ITGA1</i>	integrin subunit alpha 1	2.1
<i>LOC102724428</i>	serine/threonine-protein kinase SIK1	2.1
<i>PITX1</i>	paired like homeodomain 1	2.0
<i>VDR</i>	vitamin D receptor	2.0
<i>KLF6</i>	kruppel like factor 6	-2.2

Table S2. Effects of BCE on ESR1-regulated gene expression in TIG113 cells.

Gene Symbol	Gene Name	Fold Change
<i>IGFBP2</i>	insulin like growth factor binding protein 2	115.3
<i>WNT11</i>	Wnt family member 11	16.9
<i>ROBO2</i>	roundabout guidance receptor 2	8.0
<i>PLXDC1</i>	plexin domain containing 1	7.7
<i>CRABP2</i>	cellular retinoic acid binding protein 2	7.6
<i>LTBP1</i>	latent transforming growth factor beta binding protein 1	7.5
<i>MAP2</i>	microtubule associated protein 2	6.2
<i>PDK4</i>	pyruvate dehydrogenase kinase 4	5.9
<i>EPHX4</i>	epoxide hydrolase 4	5.7
<i>ANK3</i>	ankyrin 3	5.6
<i>EGR1</i>	early growth response 1	5.2
<i>FGFR2</i>	fibroblast growth factor receptor 2	4.8
<i>ICOSLG/LOC102723996</i>	inducible T-cell costimulator ligand	4.6
<i>VAV3</i>	vav guanine nucleotide exchange factor 3	4.2
<i>ODF3B</i>	outer dense fiber of sperm tails 3B	3.9
<i>CCL2</i>	C-C motif chemokine ligand 2	3.5
<i>CHST2</i>	carbohydrate sulfotransferase 2	3.4
<i>TMEM2</i>	transmembrane protein 2	3.4
<i>PLAU</i>	plasminogen activator, urokinase	3.3
<i>CEBPA</i>	CCAAT/enhancer binding protein alpha	3.2
<i>ASS1</i>	argininosuccinate synthase 1	3.2
<i>CPE</i>	carboxypeptidase E	3.1
<i>LOXL4</i>	lysyl oxidase like 4	3.0
<i>TGM2</i>	transglutaminase 2	3.0
<i>PDGFD</i>	platelet-derived growth factor D	2.9
<i>TFAP2C</i>	transcription factor AP-2 gamma	2.8
<i>NEDD9</i>	neural precursor cell expressed, developmentally downregulated 9	2.7
<i>PTGER3</i>	prostaglandin E receptor 3	2.6
<i>TP53I11</i>	tumor protein p53 inducible protein 11	2.6
<i>FBLN1</i>	fibulin 1	2.6
<i>PRKCH</i>	protein kinase C eta	2.5
<i>MME</i>	membrane metalloendopeptidase	2.4
<i>VEGFA</i>	vascular endothelial growth factor A	2.4
<i>SLC39A8</i>	solute carrier family 39 member 8	2.4
<i>THRB</i>	thyroid hormone receptor beta	2.3
<i>DOCK4</i>	dedicator of cytokinesis 4	2.3
<i>THBS4</i>	thrombospondin 4	2.2
<i>IER3</i>	immediate early response 3	2.2
<i>SERPINB9</i>	serpin family B member 9	2.2
<i>IGFBP5</i>	insulin like growth factor binding protein 5	2.1
<i>CSAD</i>	cysteine sulfinic acid decarboxylase	2.1
<i>TGFB3</i>	transforming growth factor beta 3	2.1
<i>TMSB15A</i>	thymosin beta 15a	2.1
<i>PLCE1</i>	phospholipase C epsilon 1	-2.0
<i>PRLR</i>	prolactin receptor	-2.0
<i>S100P</i>	S100 calcium binding protein P	-2.0
<i>SLC7A5</i>	solute carrier family 7 member 5	-2.1
<i>GSG1</i>	germ cell associated 1	-2.1
<i>TM4SF1</i>	transmembrane 4 L six family member 1	-2.3
<i>KRT19</i>	keratin 19	-2.4

Table S3. Effects of BCE on TGF β 1-regulated gene expression in TIG113 cells.

Gene Symbol	Gene Name	Fold Change
<i>WNT11</i>	Wnt family member 11	16.9
<i>ASPN</i>	asporin	15.7
<i>RASGRP3</i>	RAS guanyl-releasing protein 3	9.5
<i>WNT5A</i>	Wnt family member 5A	8.4
<i>LTBP1</i>	latent transforming growth factor beta binding protein 1	7.5
<i>TIMP3</i>	TIMP metalloproteinase inhibitor 3	5.7
<i>RGCC</i>	regulator of cell cycle	5.2
<i>EGR1</i>	early growth response 1	5.2
<i>INHBA</i>	inhibin beta A subunit	5.0
<i>OLFM2</i>	olfactomedin 2	4.7
<i>ANGPTL4</i>	angiopoietin like 4	3.8
<i>NOX4</i>	NADPH oxidase 4	3.7
<i>CCL2</i>	C-C motif chemokine ligand 2	3.5
<i>PLAU</i>	plasminogen activator, urokinase	3.3
<i>CEBPA</i>	CCAAT/enhancer binding protein alpha	3.2
<i>PIM1</i>	Pim-1 proto-oncogene, serine/threonine kinase	3.2
<i>ASS1</i>	argininosuccinate synthase 1	3.2
<i>PRDM1</i>	PR/SET domain 1	3.1
<i>TGM2</i>	transglutaminase 2	3.0
<i>TNC</i>	tenascin C	2.8
<i>NEDD9</i>	neural precursor cell expressed, developmentally downregulated 9	2.7
<i>COL7A1</i>	collagen type VII alpha 1 chain	2.6
<i>CD14</i>	CD14 molecule	2.5
<i>CAMK2N1</i>	calcium/calmodulin dependent protein kinase II inhibitor 1	2.4
<i>FERMT1</i>	fermitin family member 1	2.4
<i>VEGFA</i>	vascular endothelial growth factor A	2.4
<i>PMEPA1</i>	prostate transmembrane protein, androgen induced 1	2.3
<i>DOCK4</i>	dedicator of cytokinesis 4	2.3
<i>CTGF</i>	connective tissue growth factor	2.3
<i>IER3</i>	immediate early response 3	2.2
<i>KLF10</i>	kruppel like factor 10	2.2
<i>FABP5</i>	fatty acid binding protein 5	2.1
<i>ITGA1</i>	integrin subunit alpha 1	2.1
<i>INPP5D</i>	inositol polyphosphate-5-phosphatase D	2.1
<i>PIK3CD</i>	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit delta	2.0
<i>VDR</i>	vitamin D receptor	2.0