

**S7 Table.** Information of genes composing 10-gene signature

<b>No.</b>	<b>Gene</b>	<b>Gene function</b>	<b>Related research</b>	<b>References</b>
1	<i>DGKH</i>	Eta isoform of diacylglycerol kinase family that regulates the intracellular concentration of diacylglycerol	DGKH is known to regulate intracellular concentration of diacylglycerol by conversing to phosphatidic acid and its increased expression is liked with bipolar disorder. preclinical studies have suggested that DGK $\eta$ plays a role in mediating signaling downstream of the epidermal growth factor receptor (EGFR).	[1-3]
2	<i>GADD45B</i>	Gene family that regulates various cellular functions, including DNA repair, senescence, and cell cycle control	GADD45 genes play a key role in growth and apoptosis in response to genotoxic stimuli in cancer cells. Previous studies have reported decreased expression of GADD45B in primary breast cancers, but increased expression in inflammatory breast cancer.	[4-6]
3	<i>KLF7</i>	One of Kruppel-like factors, which are known to regulate diverse cellular processes including cell proliferation, differentiation, and metabolism	Several studies have shown that repressed expression of KLF7 by miRNAs inhibited cancer cells. Based on the current evidence, KLF7 seems to be related to the biology and progression of breast cancer.	[7-10]
4	<i>LYST</i>	Key regulator of secretory lysosome biogenesis in the immune system	Its deficiency inhibits proliferation and induces apoptosis in myeloma.	[11,12]
5	<i>NR6A1</i>	Orphan nuclear receptor that regulates the development of germ cells	Up-regulated NR6A1 induced gastric cancer proliferation, migration, and invasion via hsa_circ_001653. NR6A1 expression was identified as a potential biomarker for prostate cancer.	[13-16]
6	<i>PYCARD</i>	Regulator of inflammation with a N-terminal PYRIN-PAAD-DAPIN domain (PYD) and C-terminal caspase-recruitment domain (CARD)	PYCARD has been suggested as an independent prognostic predictor in glioma.	[17-19]
7	<i>ROBO1</i>	Plays an important role in the development of various normal organs and is involved in cancers including breast cancer, where it	ROBO1 expression is associated with the prognosis of breast cancer.	[20-22]

		plays key roles in migration and invasion		
8	<i>SLC22A20P</i>	Belong to solute carrier family, which are secondary membrane transporter translocating soluble molecules, organic cation/anion/zwitterion transporter family	<i>SLC22A20P</i> is pseudogene in human, but has novel roles in homeostasis in mouse.	[23-25]
9	<i>SLC24A3</i>	Belong to solute carrier family, which are secondary membrane transporter translocating soluble molecules, Na <sup>+</sup> /(Ca <sup>+</sup> -K <sup>+</sup> ) exchanger family	<i>SLC24A3</i> is abundantly expressed in brain and smooth muscle.	[23,24,26]
10	<i>SLC45A4</i>	Belong to solute carrier family, which are secondary membrane transporter translocating soluble molecules, putative sugar transporter	<i>SLC45A4</i> is known to up-regulated in pancreatic ductal adenocarcinoma. Its oncogenic role is to support cell proliferation by glucose uptake.	[27,28]

## References

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