

Supplementary Table S1. Final concentrations of gemcitabine in the culture medium corresponding to each cycle.

Cycle No.	Final concentration (nM)
1	12
2	36
3	72
4	144
5	216
6	288
7	360
8	432
9	504
10	576
11	648
12	720

Supplementary Table S2. Nucleotide sequences of PCR primers used for amplification of ALDH1A3, CDA, DST, FMO3, MAOA, PTHLH, XDH, UGT1A1, hENT1, NT5C, DCK, DCTD, CMPK1, NME1.

Primer	Orientation	Sequence	PCR Product Size	Gene Bank Accession No.
<u>ALDH1A3</u>	sense	5'-TCTCGACAAAGCCCTGAAGT-3'	149bp	NM_000693.2
	antisense	5'-TATTCGGCCAAAGCGTATTC-3'		
<u>CDA</u>	sense	5'-CTGAAGCCTGAGTGTGTCCA-3'	224bp	NM_001785.2
	antisense	5'-TGCCCTGAAATCCTTGTACC-3'		
<u>DST</u>	sense	5'-CGGTGGCAAGGTTGATACTT-3'	229bp	NM_001144769.2
	antisense	5'-CCACCGCAATAGGTTTCAGAT-3'		
<u>FMO3</u>	sense	5'-ATCCCATGGCTGTTTCTCAC-3'	179bp	NM_001002294.2
	antisense	5'-CTGAAGTCTCCCGACCACTC-3'		
<u>MAOA</u>	sense	5'-CACACCTTTTGGGAAATGCT-3'	203bp	NM_000240.3
	antisense	5'-TGGACTGGCATTTCATTTGA-3'		
<u>PTHLH</u>	sense	5'-CTCGCTCTGCCTGGTTAGAC-3'	245bp	NM_198965.1
	antisense	5'-CTCCAAAACCCAGCTGAGAG-3'		
<u>XDH</u>	sense	5'-TGACATTGCCAAGGTAACCA-3'	130bp	NM_000379.3
	antisense	5'-GCCTCTGAGTGGTCTTGAGG-3'		
<u>UGT1A1</u>	sense	5'-CATGCTGGGAAGATACTGTTGAT-3'	203bp	NM_000463.2
	antisense	5'-GCCCGAGACTAACAAAAGACTC		
<u>hENT1</u>	sense	5'-AAAGGAGAGGAGCCAAGAGC-3'	270bp	NM_001078177.1
	antisense	5'-GGCCCAACCAAGTCAAAGATA-3'		
<u>NT5C</u>	sense	5'-GAGATGAACGACCTACCGGAC-3'	168bp	NM_014595.2
	antisense	5'-GGCCTCGAACTGTGTCCCTTG-3'		
<u>DCK</u>	sense	5'-AAAGCTGGCTCCTGCATAGG-3'	176bp	NM_000788.2
	antisense	5'-ACCATTTGGCTGCCTGTAGT-3'		
<u>DCTD</u>	sense	5'-GTGCGGACCCAACATGAGT-3'	203bp	NM_001012732.1
	antisense	5'-ACGTCATCACTGCACCCATT-3'		
<u>CMPK1</u>	sense	5'-GTCTCATGAAGCCGCTGGTC-3'	110bp	NM_016308.2
	antisense	5'-CTCCTGCAGAAAGGTGTGTGT-		
<u>NME1</u>	sense	5'-CTAAGTCAGCCTGGTGTGCAG-3'	200bp	NM_198175.1
	antisense	5'-TCACAGTTGGCCATGGTTCC-3'		

Supplementary Table S3 Selected Genes Related to Drug Metabolism/Resistance according to the GO analysis.

Gene ID	Gene Symbol	Description	Fold Change^a
220	ALDH1A3	Aldehyde dehydrogenase 1 family,member A3	3.04
978	CDA	Cytidine deaminase	3.22
667	DST	Cystonin	4.23
2328	FMO3	Flavin containing monooxygenase 3	21.11
4128	MAOA	Monoamine oxidase A	3.01
5744	PTH1H	Parathyroid hormone hormone	7.17
54658	UGT1A1	UDP glucuronosyltransferase 1 family, polypeptide A1	4.47
7498	XDH	Xanthine dehydrogenase	7.02

Note: ^a Based on the microarray data.

Supplemental Table S4. Clinicopathological variables and CDA expression in the studied cases

Variables	Number of patients	CDA expression		P value
		Low n (%)	High n (%)	
Total	193	75 (39%)	118 (61%)	
Age (years)				0.876
<50	94	36 (38%)	58 (62%)	
≥50	99	39 (39%)	60 (61%)	
Menopausal status				0.993
Premenopausal	85	33 (39%)	52 (61%)	
Postmenopausal	108	42 (39%)	66 (61%)	
Tumor size (cm)				0.150
< 2 cm	179	67 (37%)	112 (63%)	
≥2 cm	12	7 (58%)	5 (42%)	
Cannot be measur	2	1 (50%)	1 (50%)	
ER status				0.017
Negative	91	27 (30%)	64 (70%)	
Positive	101	47 (47%)	54 (53%)	
Unknown	1	1 (100%)	0	
PR status				0.077
Negative	130	45 (35%)	85 (65%)	
Positive	60	28 (47%)	32 (53%)	
Unknown	3	2 (67%)	1 (33%)	
HER-2 status				0.767
Negative	96	36 (38%)	60 (62%)	
Positive	96	38 (40%)	58 (60%)	
Unknown	1	1 (100%)	0	
Lymph node status				0.611
Negative	117	47 (40%)	70 (60%)	
Positive	74	27 (36%)	47 (64%)	
Unknown	2	1 (50%)	1 (50%)	
Histological Grade				0.149
I & II	149	62 (42%)	87 (58%)	
III	44	13 (30%)	31 (70%)	
TNM stage				0.811
I & II	159	61 (38%)	98 (62%)	
III	32	13 (41%)	19 (59%)	
Unknown	2	1 (50%)	1 (50%)	

Notes: P-value was calculated using Pearson's χ^2 test.

Bold values are significant ($P < 0.05$).

Abbreviations: ER, estrogen receptor; PR, progesterone receptor; HER-2, human epidermal growth factor receptor 2; CDA, cytidine deaminase; TNM, tumor, node, metastasis.

Supplemental Table S5. Univariate and multivariate analysis of DFS

Variables	Univariate analysis		Multivariate analysis	
	HR (95% CI)	P value	HR (95% CI)	P value
Age	1.005(0.537-1.884)	0.986		
Menopausal status	1.767(0.908-3.439)	0.094	1.992(0.989-4.011)	0.054
Histological grade	1.821(0.977-3.395)	0.059	2.285(1.158-4.508)	0.017
Stage	1.802(1.110-2.927)	0.017		
Tumor size	1.652(0.983-2.778)	0.058		
Lymph node status	2.507(1.315-4.778)	0.005	2.620(1.344-5.106)	0.005
ER status	0.671(0.356-1.263)	0.216		
PR status	0.452(0.199-1.023)	0.057		
HER-2/neu status	0.891(0.475-1.670)	0.718		
CDA	0.485(0.257-0.918)	0.026	0.375(0.193-0.732)	0.004

Notes: Bold values are significant ($P < 0.05$)

Abbreviations: CI, confidence interval; HR, hazard ratio; ER, estrogen receptor; HER-2, human epidermal growth factor receptor 2; CDA, cytidine deaminase.