

Supplementary Table 5. All statistically significant GO Molecular functions revealed by MetaCore software analysis using 371 genes, for which the 1,034 probes showing different DNA methylation levels between 34 samples of early-onset endometrioid endometrial cancer tissue (EE) (patient age <40 yr) and 40 samples of late-onset endometrioid endometrial cancer tissue (LE) were designed (listed in Supplementary Table 4).

Molecular functions	<i>P</i> value
sequence-specific DNA binding	2.05×10^{-19}
transcription factor activity, sequence-specific DNA binding	2.39×10^{-19}
nucleic acid binding transcription factor activity	2.48×10^{-19}
RNA polymerase II transcription factor activity, sequence-specific DNA binding	3.14×10^{-16}
DNA binding	2.05×10^{-10}
transcription regulatory region sequence-specific DNA binding	2.15×10^{-10}
transcription factor activity, RNA polymerase II core promoter proximal region sequence-specific binding	2.81×10^{-10}
neurokinin receptor binding	5.08×10^{-10}
substance P receptor binding	5.08×10^{-10}
sequence-specific double-stranded DNA binding	7.65×10^{-10}
transcription regulatory region DNA binding	9.47×10^{-10}
regulatory region DNA binding	1.01×10^{-9}
regulatory region nucleic acid binding	1.13×10^{-9}
neuropeptide receptor activity	3.30×10^{-9}
gated channel activity	6.48×10^{-9}
double-stranded DNA binding	7.49×10^{-9}
RNA polymerase II regulatory region sequence-specific DNA binding	9.49×10^{-9}
voltage-gated potassium channel activity	1.06×10^{-8}
RNA polymerase II regulatory region DNA binding	1.19×10^{-8}
transcriptional activator activity, RNA polymerase II transcription regulatory region sequence-specific binding	1.24×10^{-8}
voltage-gated cation channel activity	2.12×10^{-8}
channel activity	2.71×10^{-8}
passive transmembrane transporter activity	2.82×10^{-8}
core promoter proximal region sequence-specific DNA binding	2.93×10^{-8}
core promoter proximal region DNA binding	3.18×10^{-8}
ion channel activity	6.07×10^{-8}
transcriptional activator activity, RNA polymerase II core promoter proximal region sequence-specific binding	6.58×10^{-8}
RNA polymerase II core promoter proximal region sequence-specific DNA binding	7.36×10^{-8}
substrate-specific channel activity	1.00×10^{-7}
transcription factor activity, RNA polymerase II distal enhancer sequence-specific binding	1.09×10^{-7}
binding	2.83×10^{-7}
voltage-gated channel activity	3.99×10^{-7}
voltage-gated ion channel activity	3.99×10^{-7}
potassium channel activity	4.31×10^{-7}
potassium ion transmembrane transporter activity	9.24×10^{-7}
cation channel activity	1.58×10^{-6}
neuropeptide receptor binding	1.76×10^{-6}
metal ion transmembrane transporter activity	2.29×10^{-6}
neuroligin family protein binding	2.47×10^{-6}
calcium channel regulator activity	2.74×10^{-6}
inorganic cation transmembrane transporter activity	2.78×10^{-6}
transmitter-gated ion channel activity	6.50×10^{-6}
transmitter-gated channel activity	6.50×10^{-6}
transcriptional repressor activity, RNA polymerase II transcription regulatory region sequence-specific binding	8.00×10^{-6}
G-protein coupled peptide receptor activity	8.02×10^{-6}
ligand-gated channel activity	8.55×10^{-6}
ligand-gated ion channel activity	8.55×10^{-6}
peptide receptor activity	9.70×10^{-6}
neurotransmitter receptor activity	1.19×10^{-5}
HMG box domain binding	1.39×10^{-5}
channel regulator activity	1.49×10^{-5}

neuropeptide Y receptor activity	2.39×10^{-5}
ion channel regulator activity	3.16×10^{-5}
ligand-gated anion channel activity	3.31×10^{-5}
ion transmembrane transporter activity	3.46×10^{-5}
nucleic acid binding	4.18×10^{-5}
GABA-gated chloride ion channel activity	5.19×10^{-5}
cation transmembrane transporter activity	5.42×10^{-5}
monovalent inorganic cation transmembrane transporter activity	7.30×10^{-5}
extracellular ligand-gated ion channel activity	9.13×10^{-5}
transcriptional repressor activity, RNA polymerase II core promoter proximal region sequence-specific binding	1.00×10^{-4}
transmembrane transporter activity	1.35×10^{-4}
substrate-specific transmembrane transporter activity	1.38×10^{-4}
substrate-specific transporter activity	3.40×10^{-4}
cation binding	7.63×10^{-4}
transporter activity	8.28×10^{-4}
organic cyclic compound binding	9.76×10^{-4}
ammonium ion binding	1.14×10^{-3}
receptor binding	1.29×10^{-3}
ligand-gated cation channel activity	1.72×10^{-3}
heterocyclic compound binding	1.76×10^{-3}
somatostatin receptor activity	1.88×10^{-3}
peptide YY receptor activity	1.88×10^{-3}
protein dimerization activity	1.94×10^{-3}
E-box binding	2.07×10^{-3}
GABA-A receptor activity	2.20×10^{-3}
protein heterodimerization activity	2.41×10^{-3}
delayed rectifier potassium channel activity	2.56×10^{-3}
chromatin binding	2.61×10^{-3}
cyclic nucleotide binding	2.73×10^{-3}
pancreatic polypeptide receptor activity	2.80×10^{-3}
polypeptide N-acetylgalactosaminyltransferase activity	2.96×10^{-3}
GABA receptor activity	3.39×10^{-3}
activating transcription factor binding	3.52×10^{-3}
transmembrane receptor activity	3.85×10^{-3}
neuropeptide binding	3.86×10^{-3}
benzodiazepine receptor activity	3.88×10^{-3}
amino acid binding	3.96×10^{-3}
enhancer sequence-specific DNA binding	4.25×10^{-3}
metal ion binding	4.51×10^{-3}
[heparan sulfate]-glucosamine 3-sulfotransferase 1 activity	5.13×10^{-3}
drug binding	5.15×10^{-3}
G-protein coupled receptor binding	5.86×10^{-3}
glutamate receptor activity	6.12×10^{-3}
neurotransmitter binding	6.12×10^{-3}
cAMP binding	6.78×10^{-3}
ferrous iron binding	6.78×10^{-3}
chloride channel activity	7.06×10^{-3}
transcription factor activity, transcription factor binding	7.07×10^{-3}
excitatory extracellular ligand-gated ion channel activity	7.21×10^{-3}
enhancer binding	7.60×10^{-3}
AT DNA binding	8.09×10^{-3}
iron ion transmembrane transporter activity	8.09×10^{-3}
co-receptor binding	8.09×10^{-3}
transcription factor activity, protein binding	8.39×10^{-3}
protein binding	8.42×10^{-3}
protein domain specific binding	9.66×10^{-3}

inhibitory extracellular ligand-gated ion channel activity	9.79×10 ³
transcription corepressor activity	0.010
transmembrane signaling receptor activity	0.012
co-SMAD binding	0.017
transcription cofactor activity	0.017
transcription factor binding	0.013
chloride transmembrane transporter activity	0.013
signal transducer activity	0.014
growth hormone secretagogue receptor activity	0.014
thyroxine 5-deiodinase activity	0.014
3-hydroxyanthranilate 3,4-dioxygenase activity	0.014
pituitary adenylate cyclase activating polypeptide activity	0.014
suramin binding	0.014
pituitary adenylate cyclase-activating polypeptide receptor binding	0.014
intracellular sodium activated potassium channel activity	0.014
neuropeptide Y receptor binding	0.014
thyrotropin-releasing hormone activity	0.014
choline:sodium symporter activity	0.014
cysteine dioxygenase activity	0.014
[heparan sulfate]-glucosamine 3-sulfotransferase 2 activity	0.014
glutamine N-acyltransferase activity	0.014
acetylgalactosaminyltransferase activity	0.015
chromatin DNA binding	0.015
chemoattractant activity	0.016
receptor activity	0.017
molecular transducer activity	0.017
protein phosphatase 2A binding	0.017
anion channel activity	0.017
growth factor activity	0.018
protein kinase A catalytic subunit binding	0.018
signaling receptor activity	0.019
glycine binding	0.020
guanylate kinase activity	0.020
dopamine binding	0.020
3',5'-cyclic-AMP phosphodiesterase activity	0.020
calcium-dependent protein binding	0.023
heparan sulfate sulfotransferase activity	0.023
gamma-catenin binding	0.023
transcriptional repressor activity, RNA polymerase II transcription factor binding	0.024
BRE binding	0.028
prostaglandin J receptor activity	0.028
glycine-gated chloride ion channel activity	0.028
trivalent inorganic cation transmembrane transporter activity	0.028
volume-sensitive chloride channel activity	0.028
neurotrophin TRKB receptor binding	0.028
ferric iron transmembrane transporter activity	0.028
toxin activity	0.028
hydroxymethylglutaryl-CoA lyase activity	0.028
oxysterol 7-alpha-hydroxylase activity	0.028
prostaglandin D receptor activity	0.028
ionotropic glutamate receptor activity	0.028
extracellular-glutamate-gated ion channel activity	0.028
protein kinase A regulatory subunit binding	0.031
catecholamine binding	0.031
protein phosphatase binding	0.032
metallopeptidase activity	0.032

protein kinase A binding	0.034
protein homodimerization activity	0.036
neurotransmitter:sodium symporter activity	0.037
transforming growth factor beta receptor binding	0.039
transcription factor activity, RNA polymerase II transcription factor binding	0.040
protein phosphatase 1 binding	0.040
integrin binding	0.041
thyroxine 5'-deiodinase activity	0.041
cannabinoid receptor activity	0.041
dopamine:sodium symporter activity	0.041
phenylalanine 4-monooxygenase activity	0.041
calcium- and calmodulin-regulated 3',5'-cyclic-GMP phosphodiesterase activity	0.041
calmodulin-dependent cyclic-nucleotide phosphodiesterase activity	0.041
glial cell-derived neurotrophic factor receptor activity	0.041
vasoactive intestinal polypeptide receptor activity	0.041
glutamate decarboxylase activity	0.041
inward rectifier potassium channel activity	0.044
3',5'-cyclic-nucleotide phosphodiesterase activity	0.044
acetylcholine receptor binding	0.044
metalloaminopeptidase activity	0.044
ion channel binding	0.044
phosphatidylinositol bisphosphate binding	0.047
cyclic-nucleotide phosphodiesterase activity	0.047
phospholipid-translocating ATPase activity	0.047
transmitter-gated ion channel activity involved in regulation of postsynaptic membrane potential	0.047
carbon-carbon lyase activity	0.049
