Comprehensive Analysis of the Expression Profiles of Long Non-Coding RNAs with Associated ceRNA Network Involved in the Colon Cancer Staging and Progression

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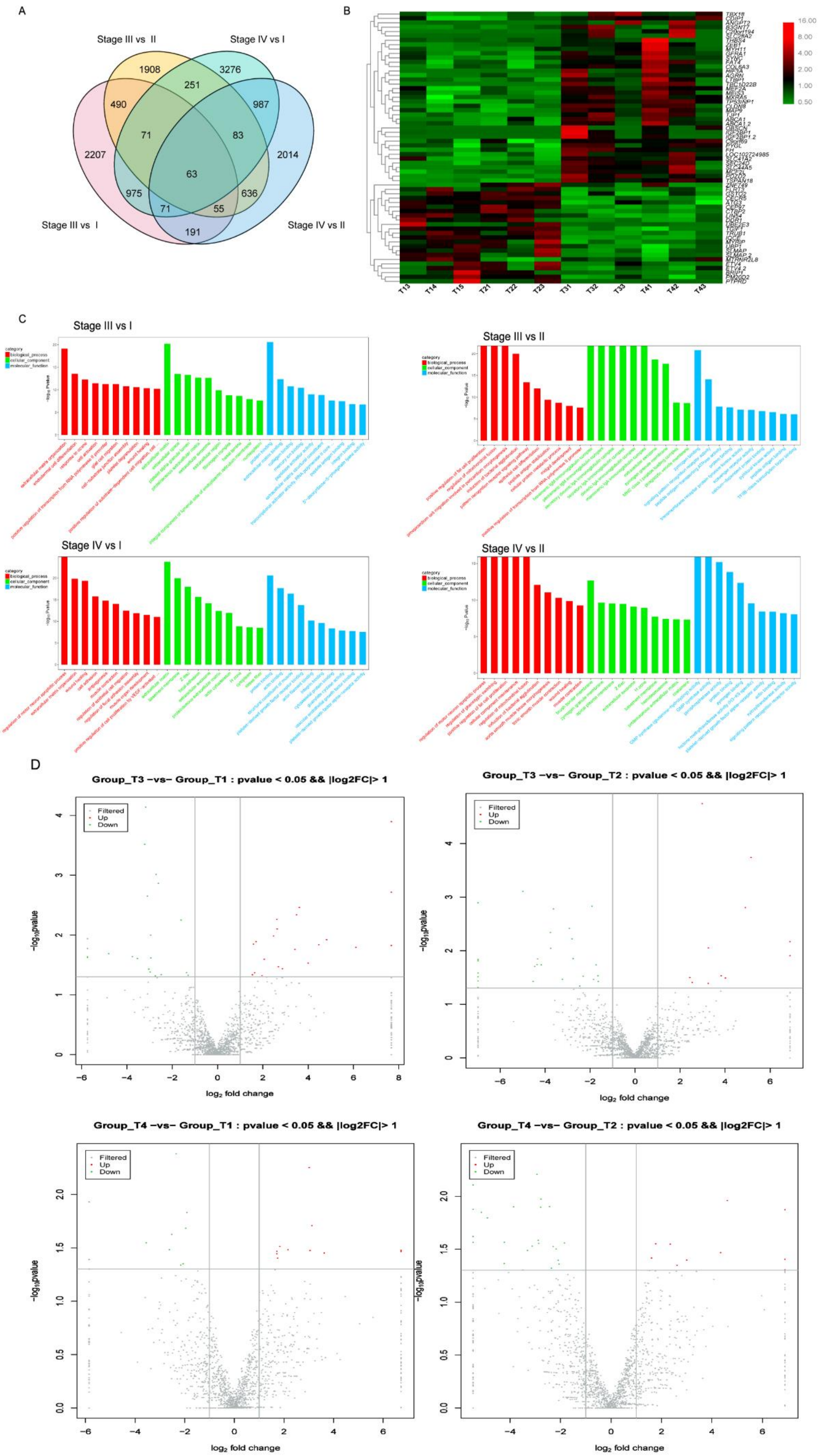
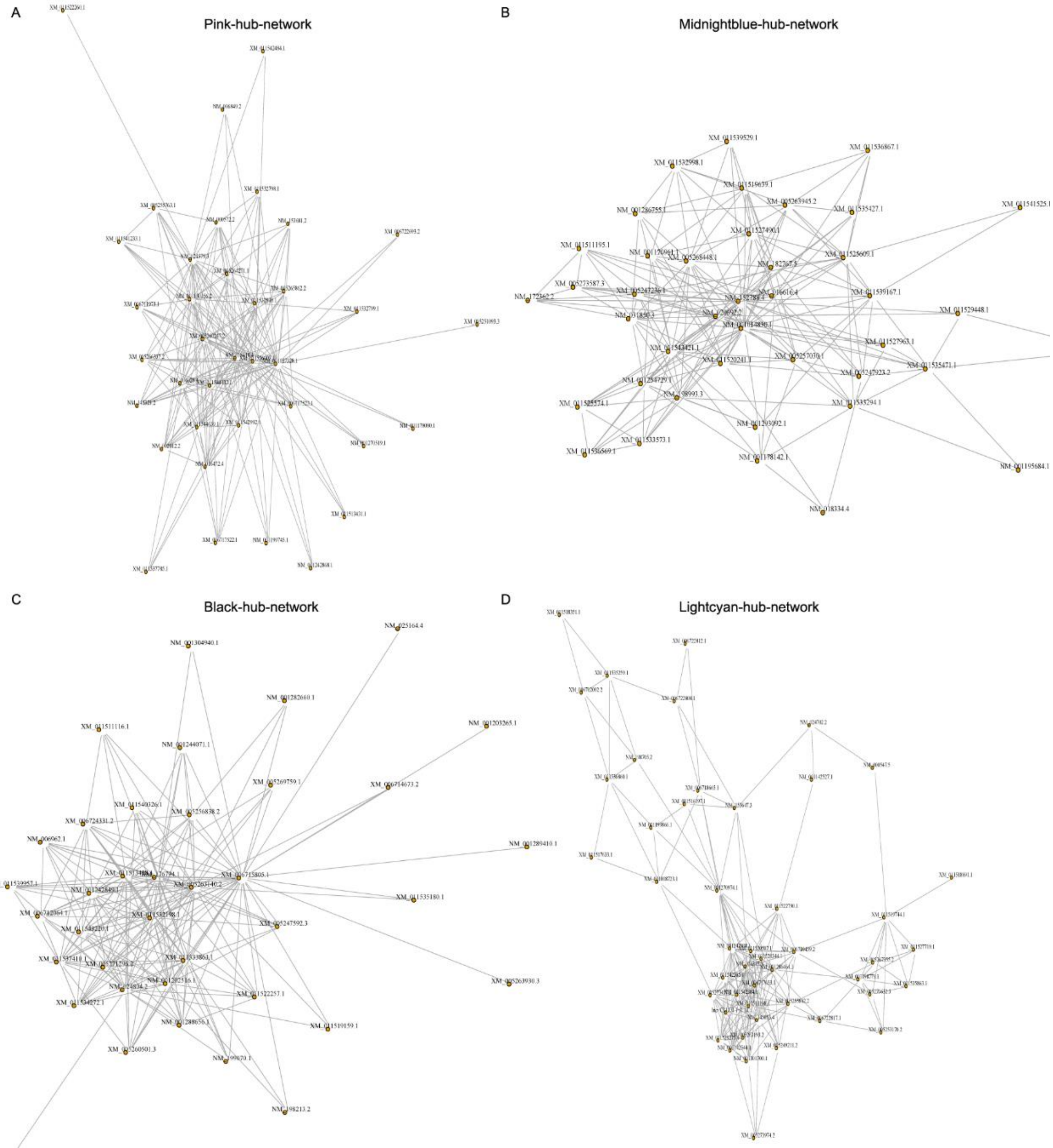
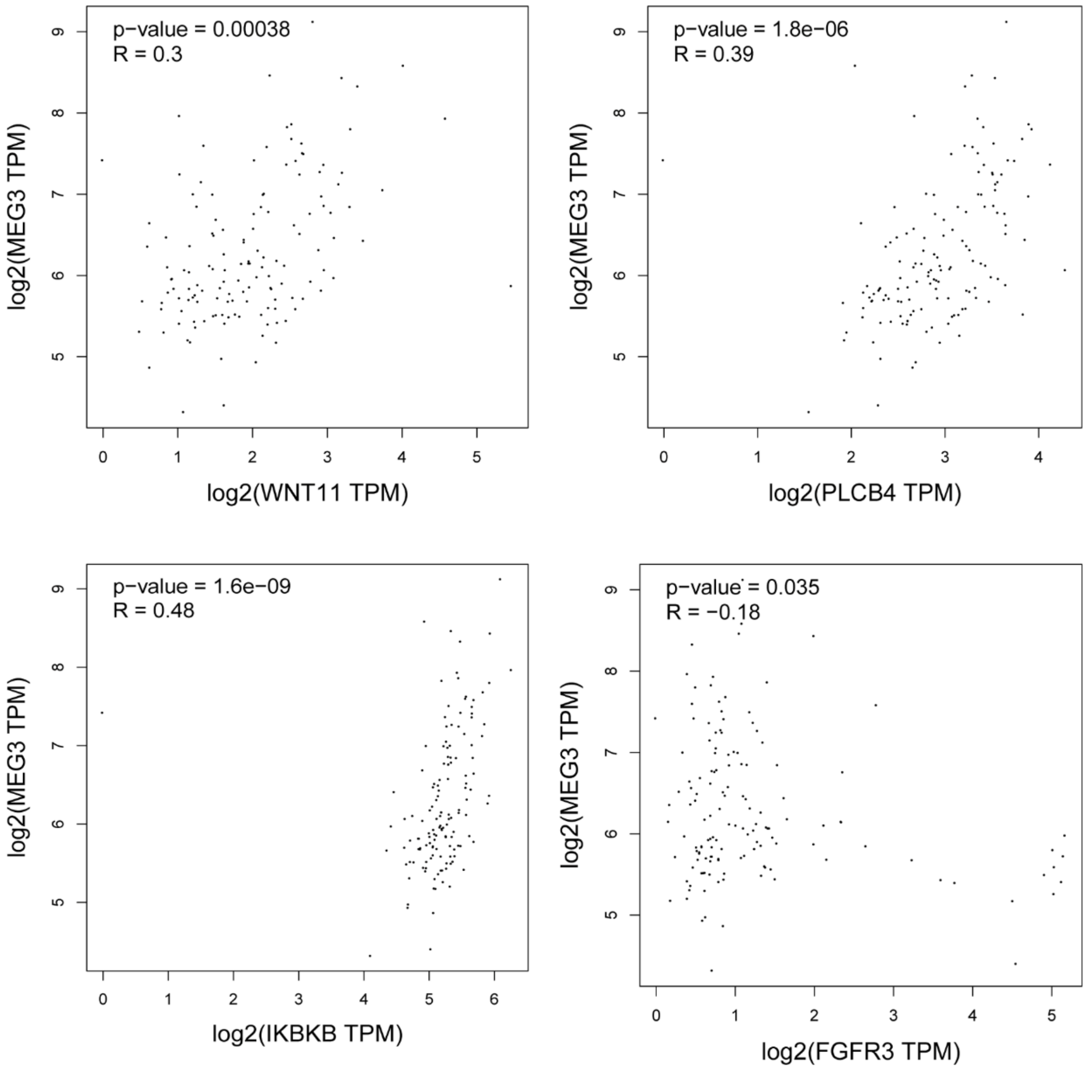

A
Stage III vs II
Stage IV vs I
1908
3276
251
490
987
71
83
2207
2014
63
975
636
71
55
191
Stage III vs I
Stage IV vs II
B
TBX18
CDIP1
ANGPT2
B3GNT7
C20orf194
SLC28A2
THBS4
ZEB1
MYH11
GFRA1
SYNC
FAT4
COL6A3
HIF3A
AGRN
LTBP1
TBC1D22B
MEF2A
MEIS3
MXRA5
TP53INP1
CLDN8
MAP9
TJP1
ABCA1
ABCA1.2
OBSCN
IGF2BP1
IGF2BP1.2
C9orf69
PYGL
FH
LOC102724985
SLC41A2
SEC24D
SLC44A5
MCF2L
POZD2
TSPAN18
ZNF749
FLRT3
GSTO2
CECR5
ATG3
CEP97
CTBP2
LIN54
DDR1
UBE2E3
TGIF1
TRUB1
IQCE
MYRIP
UBP1
SLMAP
SLMAP.2
MTRNR2L8
ETV4
ETV4.2
BRIP1
PM20D2
PTPRD
16.00
8.00
4.00
2.00
1.00
0.50
T13
T14
T15
T21
T22
T23
T31
T32
T33
T41
T42
T43
C
Stage III vs I
Stage III vs II
Stage IV vs I
Stage IV vs II
category
biological_process
cellular_component
molecular_function
-log10 Pvalue
D
Group_T3 -vs- Group_T1 : pvalue < 0.05 && |log2FC|> 1
Group_T3 -vs- Group_T2 : pvalue < 0.05 && |log2FC|> 1
Group_T4 -vs- Group_T1 : pvalue < 0.05 && |log2FC|> 1
Group_T4 -vs- Group_T2 : pvalue < 0.05 && |log2FC|> 1
Filtered
Up
Down
-log10pvalue
log2 fold change

Supplement 1 Differentially expressed (DE) mRNAs and miRNAs between the stage III/IV tumor tissue and stage I/II tumor tissue. (A) Venn diagram analysis of DEmRNAs at stage III vs stage I, stage III vs stage II, stage IV vs stage I, and stage IV vs stage II of CC (B) Heatmaps of DEmRNAs in stage III/IV tumor. (C) Gene Ontology analysis of DEmRNAs. Red rectangle represents biological process (BP), green rectangle represents cellular component and blue rectangle represents molecular function (MF). (D) Volcano plot of DEmiRNAs at stage III vs stage I, stage III vs stage II, stage IV vs stage I, and stage IV vs stage II of CC.



Supplement 2 Module core gene analysis of model pink, midnightblue, black and lightcyan.



Supplement 3 The expressed relationship between lncRNA MEG3 and mRNA Wnt11, PLCB4, IKBKB and FGFR3 was analysis using the TCGA database.

Supplement 4 Demographic and clinical characteristics of colorectal cancer patients (n=40) involved in real time PCR.

Characteristics	patients， n (range)
Age	64 （41-80）
Sex	
F	24
M	16
Stage	
I	10
II	10
III	10
IV	10
T stage	
T1	3
T2	10
T3	8
T4	19
N stage	
N0	23
N1	10
N2	7
M stage	
M0	30
M1	10
N	
+	25
-	15
V	
+	12
-	28
MLH1	
+	31
-	9
MSH2	
+	39
-	1
MSH6	
+	40
-	0
PMS2	
+	35

-	5

Supplement 5 Primer sequences used in this study.

Gene name	Primer sequence
MEG3-1-F	5' GCTGAAGAACTGCGGATGGAA 3'
MEG3-1-R	CCGTGGCTGTGGAGGGATT 3'
hsa-miR-324-5p RT	5' GTCGTATCCAGTGCGTGTCGTGGAGTCGGCAATTGCACTGGATACGACCACCAAT 3'
hsa-miR-324-5p F	5' ATATACTCGCATCCCCTAGGGC 3'
hsa-miR-324-5p R	5' AGTGCGTGTCGTGGAGTCG 3'
WNT11-F	5' TTGACCTGGAGAGAGGGACC 3'
WNT11-R	5' AGGAGCATCGGAAAACTTGG 3'
FGFR3-F	5' GTGCTCAAGACGGCGGGC 3'
FGFR3-R	5' GCCACGCAGAGTGATGAGAAAA 3'
PLCB4-F	5' TGAAGGCAAGGAAGGACAGGT 3'
PLCB4-R	5' CCACTGCAGACACAAACTATCCG 3' 1
IKBKB-F	5' TGGCACAATCAGGAAACAGGT 3'
IKBKB-R	5' GGGTGGGTCAGCCTTCTCAT 3'
GAPDH -F	5' AGAAGGCTGGGGCTCATT 3'
GAPDH -R	5' TGCTAAGCAGTTGGTGGTG 3'
U6-F	5’ CGATACAGAGAAGATTAGCATGGC 3’
U6-R	5’ AACGCTTCACGAATTTGCGT 3’ 3’