

**Supplementary Table 2.** Target genes of miRs resulted from the next generation sequencing of colonic samples and their related gene ontology (GO) terms (.B-H: P- values were corrected by the Benjamini-Hochberg method).

GO Terms	Genes	B-H
<i>positive regulation of transcription from RNA polymerase II promoter</i>	E2F1, HMGB1, CCNT1, TLR2, ZEB1, REST, SRF, APP, HNRNPK, IL1B, YAP1, MYC, BCL9, AKT2, EGFR, NTF3, SMAD2, HMGA1, BRCA1, STAT3, UHRF1, EP300, NCOA3, SP1, VEGFA, MAPK3, SMARCA4	0.0000
<i>transcription, DNA-templated</i>	E2F1, BMI1, ERG, ERBB2, RCOR1, CCNT1, EZH2, YBX3, FASLG, SMAD2, ZEB1, TOPORS, DAXX, BRCA1, PURA, EYA4, UHRF1, TSPYL2, SP1, KHSRP, DNMT1, LRRFIP1, MN1, MYC, HDAC6, SMARCA4	0.0046
<i>negative regulation of transcription from RNA polymerase II promoter</i>	E2F1, BMI1, DNMT3A, HMGB1, PHB, RCOR1, EZH2, YBX3, FASLG, SMAD2, ZEB1, REST, DAXX, SNAI1, STAT3, UHRF1, EP300, HNRNPK, VEGFA, DNMT1, IL1B, MYC, SMARCA4	0.0000
<i>innate immune response</i>	EGFR, HMGB1, GRB2, MAP2K3, ERBB2, WASF2, TLR2, IRS1, PTEN, IKBKE, APP, CDKN1A, EP300, CDKN1B, MAPK3, IL1B, SHC1, LRRFIP1, TNFAIP3	0.0008
<i>gene expression</i>	DNMT3A, YWHAZ, EZH2, CCNT1, ELAVL1, SMAD2, SMN1, UHRF1, EP300, HNRNPK, SP1, PCBP1, WDR77, MAPK3, KHSRP, WDR4, DNMT1, YAP1, MYC	0.0021
<i>signal transduction</i>	EGFR, RET, YWHAZ, ERG, NTF3, TP53BP2, PHB, MAP2K3, ERBB2, TLR2, FASLG, IRS1, STAT3, ATM, HNRNPK, HGS, IL1B, AKT2	0.0109
<i>negative regulation of transcription, DNA-templated</i>	E2F1, PHB, RCOR1, EZH2, SMAD2, REST, ZEB1, DAXX, PDCD4, HMGA1, BRCA1, PURA, CDKN1B, PBXIP1, LRRFIP1, HDAC6, SMARCA4	0.0000
<i>apoptotic process</i>	E2F1, RTN4, HMGB1, YWHAZ, TGFBR2, TLR2, FASLG, DAXX, PDCD4, PTEN, BRCA1, EP300, MAPK3, IL1B, APAF1, TNFAIP3, APC	0.0001
<i>positive regulation of transcription, DNA-templated</i>	E2F1, RET, MAP2K3, PHB, SMAD2, REST, TOPORS, SNAI1, HMGA1, STAT3, BRCA1, SP1, NCOA3, IL1B, MYC, SMARCA4	0.0001
<i>negative regulation of cell proliferation</i>	CDKN1A, CDKN1B, INPPL1, PHB, HGS, IL1B, SMAD2, ZEB1, REST, SRF, PTEN, HMGA1, STAT3, APC	0.0002
<i>viral process</i>	MSH6, GRB2, RCOR1, WASF2, CCNT1, DAXX, HMGA1, STAT3, EP300, HNRNPK, SP1, MAPK3, BNIP3L, SHC1	0.0025
<i>positive regulation of cell proliferation</i>	EGFR, NTF3, TGFBR2, FASLG, PTEN, IRS1, PURA, CDKN1B, WDR77, VEGFA, SHC1, YAP1, MYC	0.0025
<i>negative regulation of apoptotic process</i>	EGFR, CDKN1A, YWHAZ, CDKN1B, HNRNPK, CD44, BNIP3L, VEGFA, TOPORS, PTEN, PDCD4, MYC, STAT3	0.0036
<i>blood coagulation</i>	YWHAZ, BSG, GRB2, RCOR1, L1CAM, WEE1, SLC7A11, APP, CD44, ATP2A2, VEGFA, MAPK3, SHC1	0.0036
<i>aging</i>	DNMT3A, HNRNPK, TFRC, TGFBR2, DNMT1, IL1B, SHC1, APAF1, CCL5, PTEN, STAT3	0.0000
<i>neurotrophin TRK receptor signaling pathway</i>	RTN4, EGFR, CDKN1A, CDKN1B, GRB2, ERBB2, MAPK3, SHC1, PTEN, IRS1, STAT3	0.0109
<i>positive regulation of cell migration</i>	EGFR, RET, NTF3, VEGFA, NUMB, CCL5, IRS1, SNAI1, AKT2, APC	0.0002
<i>positive regulation of gene expression</i>	E2F1, CD44, NCOA3, VEGFA, TLR2, DNMT1, IL1B, HGS, HSPA1B, BRCA1	0.0017
<i>MAPK cascade</i>	EGFR, RET, GRB2, ERBB2, MAPK3, IL1B, SHC1, CCL5, IRS1, MYC	0.0021
<i>nervous system development</i>	BDNF, EP300, NTF3, VEGFA, L1CAM, APAF1, STAT3, SMN1, SMARCA4, PURA	0.0035

<i>epidermal growth factor receptor signaling pathway</i>	EGFR, CDKN1A, CDKN1B, GRB2, ERBB2, MAPK3, HGS, SHC1, PTEN, IRS1	0.0106
<i>response to drug</i>	CDKN1A, RET, BDNF, CDKN1B, TGFBR2, CCL5, PTEN, MYC, STAT3, APC	0.0111
<i>regulation of transcription from RNA polymerase II promoter</i>	HMGB1, ERG, VEGFA, WDR77, LRRFIP1, ZEB1, BRCA1, STAT3, SMARCA4, PURA	0.0225
<i>axon guidance</i>	EGFR, BDNF, NTF3, GRB2, ERBB2, MAPK3, NUMB, SHC1, L1CAM, IRS1	0.2818

---