

## Supplementary information

**Table S1. Integrative analysis of KEGG signaling pathways involving miR-17~92, 105~25 and 99a~125b clusters by **mirFOCUS**.**

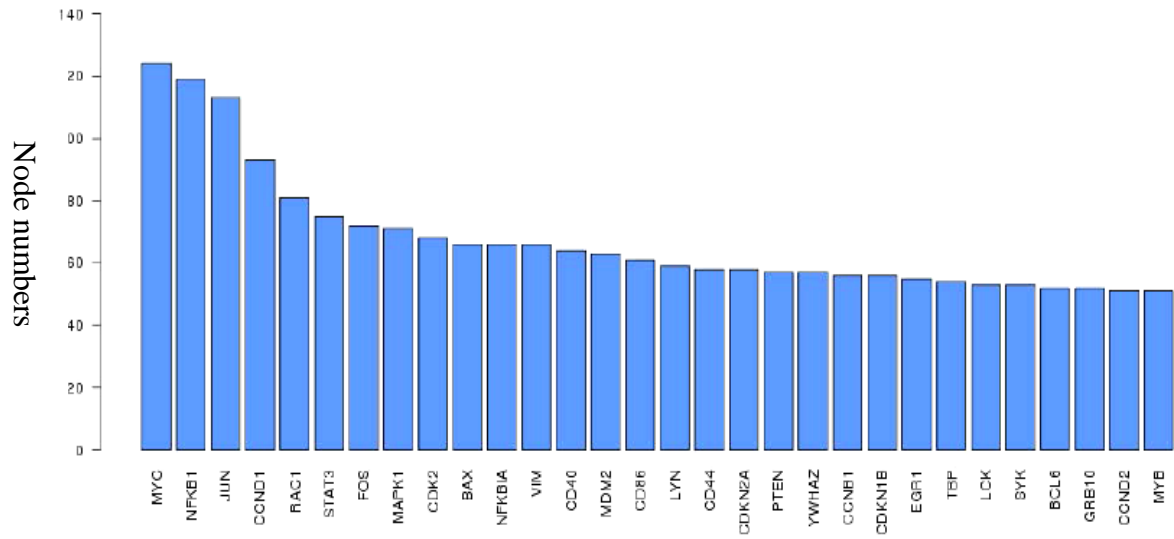
KEGG ID	KEGG Pathway	Involved miRNAs
hsa05219	4.62 Bladder cancer	hsa-miR-106b,hsa-miR-25,hsa-miR-125b,hsa-miR-99a,hsa-let-7c,hsa-miR-19a,hsa-miR-92a
hsa04350	4.57 TGF-beta signaling pathway	hsa-miR-106b,hsa-miR-125b,hsa-let-7c,hsa-miR-19a,hsa-miR-92a
hsa05220	3.68 Chronic myeloid leukemia	hsa-miR-106b,hsa-miR-25,hsa-miR-125b,hsa-miR-99a,hsa-let-7c,hsa-miR-19a,hsa-miR-92a
hsa05212	3.68 Pancreatic cancer	hsa-miR-106b,hsa-miR-25,hsa-miR-125b,hsa-let-7c,hsa-miR-19a,hsa-miR-92a
hsa05214	3.65 Glioma	hsa-miR-106b,hsa-miR-25,hsa-miR-125b,hsa-miR-99a,hsa-let-7c,hsa-miR-19a
hsa04012	3.04 ErbB signaling pathway	hsa-miR-106b,hsa-miR-25,hsa-miR-125b,hsa-miR-99a,hsa-let-7c,hsa-miR-19a
hsa05218	2.65 Melanoma	hsa-miR-125b
hsa00830	2.45 Retinol metabolism	hsa-miR-125b
hsa00980	2.04 Metabolism of xenobiotics by cytochrome P450	hsa-miR-125b
hsa05223	2.03 Non-small cell lung cancer	hsa-miR-106b,hsa-miR-25,hsa-miR-125b,hsa-let-7c,hsa-miR-19a
hsa04144	1.93 Endocytosis	hsa-miR-106b,hsa-miR-125b,hsa-miR-99a,hsa-let-7c,hsa-miR-19a,hsa-miR-92a
hsa00982	1.77 Drug metabolism - cytochrome P450	hsa-miR-125b
hsa05215	1.76 Prostate cancer	hsa-miR-106b,hsa-miR-25,hsa-miR-125b,hsa-miR-99a,hsa-let-7c,hsa-miR-19a
hsa04010	1.68 MAPK signaling pathway	hsa-miR-106b,hsa-miR-25,hsa-miR-125b,hsa-miR-99a,hsa-let-7c,hsa-miR-19a,hsa-miR-92a
hsa04115	1.52 p53 signaling pathway	hsa-miR-106b,hsa-miR-25,hsa-miR-125b,hsa-let-7c,hsa-miR-19a,hsa-miR-92a
hsa04110	1.52 Cell cycle	hsa-miR-106b,hsa-miR-25,hsa-miR-125b,hsa-let-7c,hsa-miR-19a,hsa-miR-92a
hsa05210	1.49 Colorectal cancer	hsa-miR-106b,hsa-miR-25,hsa-miR-125b,hsa-miR-99a,hsa-let-7c,hsa-miR-19a,hsa-miR-92a
hsa00150	1.43 Androgen and estrogen metabolism	hsa-miR-125b
hsa00040	1.43 Pentose and glucuronate interconversions	hsa-miR-125b
hsa00860	1.43 Porphyrin and chlorophyll metabolism	hsa-miR-125b
hsa00053	1.43 Ascorbate and aldarate metabolism	hsa-miR-125b

**Table S2. Ingenuity analysis of predicted pathways for five key mRNAs.**

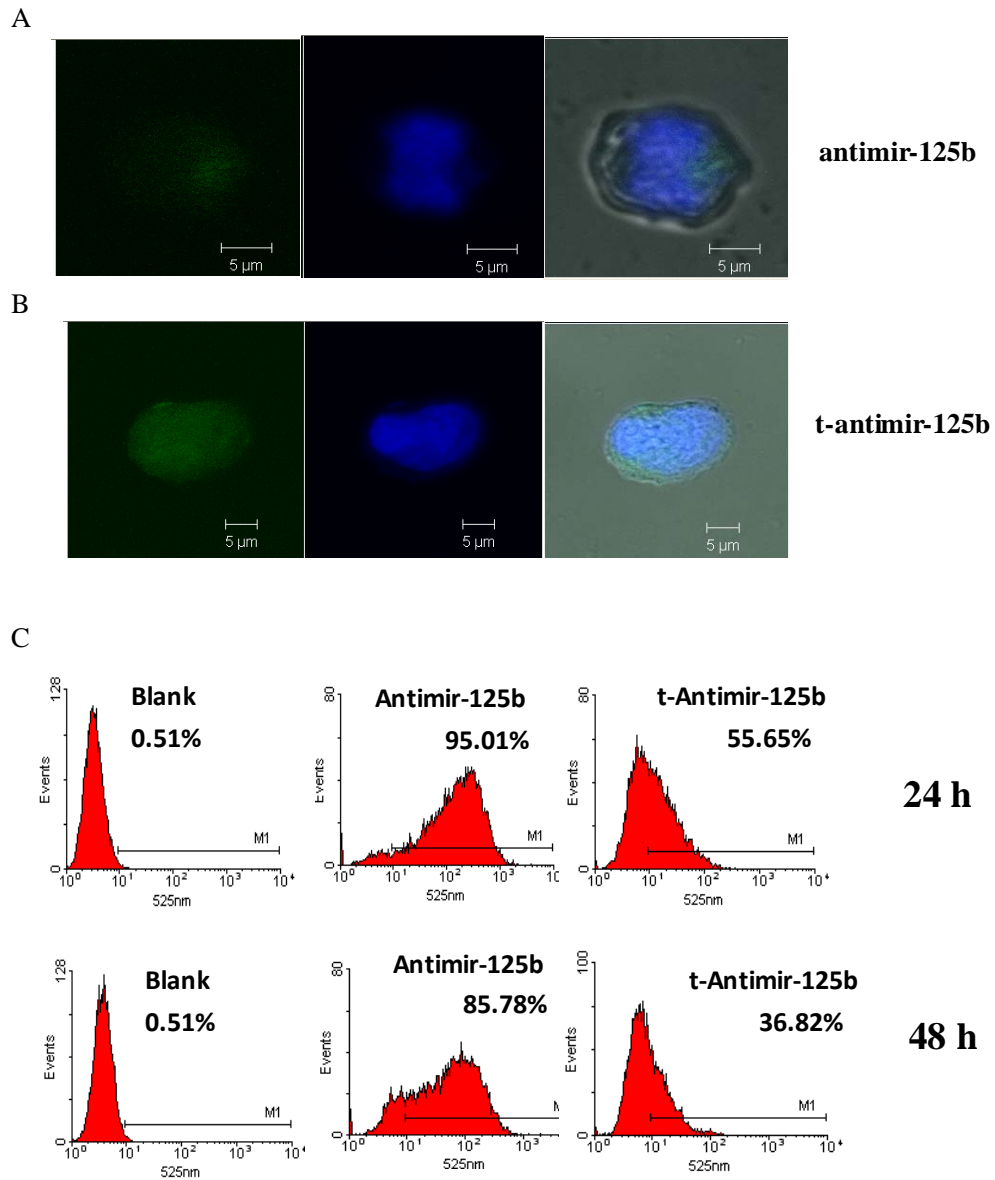
Signaling pathway	RAC1	NFκB1	MYC	JUN	CCND1
B cell receptor	+	+		+	
Wnt	+		+	+	+
Toll-like receptor	+	+		+	
Neurotrophin MAPK	+	+		+	
ErbB	+		+	+	+
Jak-STAT			+	+	
NOD-like receptor			+		+
Chemokine		+			
p53	+	+			
Adipocytokine					+
RIG-I-like receptor		+			
VEGF		+			
Fc epsilon RI	+				
TGF-beta	+				
GnRH			+		
				+	

5' UCCCUGAGACCCUAACUUGUGA 3'	miR-125b
3' AGGGACTCTGGGATT GA ACACT 5'	antimiR-125b
5' UCCCUGAGACCCUAACUUGUGA 3'	miR-125b
3'AGGGACTC	5' t-antimiR-125b
5' AACCCGUAGAUCCGAUCUUGUG 3'	miR-99a
3' TTGGGCAT	5' t-antimiR-99a
5'UGAGGUAGUAGGUUGUAUGGUU3'	miR-let-7
3' ACTCCA TC	5' t-antimiR-let-7

**Figure S1.**



**Figure S2.**



**Figure S3.**

## **Supplementary Legends**

**Figure S1. Sequences of anti-miR-125b, t-anti-miR-99a~125b cluster LNAs and seed sequences in the miR-99a~125b cluster.**

**Figure S2. Genes ranked by node numbers.**

The mRNAs differentially regulated by BBR were integrated by R software with gplots package and the top 30 genes were ranked by node numbers.

**Figure S3. Confocal localization and delivery of t-anti-mir-125b in comparison with anti-mir-125b.**

Anti-mir-125b and t-anti-mir-125b were modified with FITC, and transfected into RPMI-8266 cells. (A) Representative optical sections of FAM-labeled anti-mir-125b immediately post-transfection. (B) Representative optical sections of FAM-labeled t-anti-mir-125b immediately post-transfection. (C) Flow cytometry showed that anti-mir-125b and t-anti-mir-125b-FITC-positive cells were 95.01% and 55.65% of the total, respectively, 24 h post-transfection. These results indicated that t-anti-mir-125b-FITC was detected at high levels and was located mainly in the cytoplasm, but rapidly degraded in comparison with anti-mir-125b-FITC.