

Supplementary Table 1: List of microRNAs resulting from different analyses

Cases vs Drinking Controls	Correlation analysis of 21 miRNA expression (rCt) with traditional biomarkers	miRNAs by best performance AUC-ROC	AH vs Cirrhosis
miR-16	miR-16	miR-191	miR-15a
miR-19a	miR-19a	miR-27a	miR-21-5p
miR-19b	miR-27a	miR-130a	miR-28
miR-26a	miR-29b		miR-125b-5p
miR-27a	miR-101		and miR-185
miR-27b	miR-130a		
miR-29b	miR-191		
miR-30c			
miR-101			
miR-130a			
miR-151-3p			
miR-152			
miR-191			
miR-199a-3p			
miR-221			
miR-301			
miR-335			
miR-379			
miR-374-5p			
miR-652			
miR-532-3p			

Upregulated microRNAs are in bold. Controls are drinkers with no liver disease; Cases include drinkers with cirrhosis and alcoholic hepatitis; Cirrhosis are drinkers with cirrhosis (no AH); AH are drinkers with alcoholic hepatitis

Supplementary Table 2: Correlation analysis of miRNA expression (Δ Ct Ct) with traditional biomarkers.

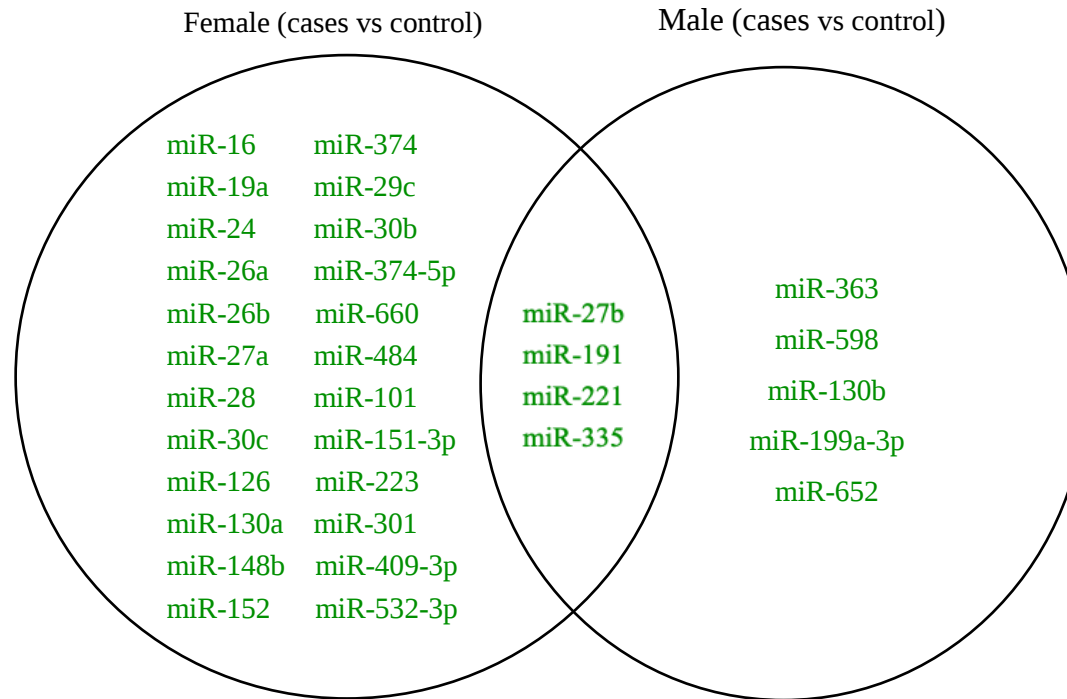
miRs	Albumin(umol/l)	Platelet count (10 ⁹ /L)	GGT(IU/L)	BMI	Haemoglobin (g/L)
miR-16	-0.31* (-0.55 to -0.01)	-0.38* (-0.59 to 0.02)	-0.01 (-0.29 to 0.29)	0.19 (-0.11 to 0.45)	-0.24 (-0.50 to 0.05)
miR-19a	-0.31* (-0.55 to -0.01)	-0.34* (-0.58 to -0.05)	0.19 (-0.10 to 0.46)	0.22 (-0.07 to 0.49)	-0.17 (-0.44 to 0.12)
miR-19b	-0.16 (-0.43 to 0.14)	-0.29* (-0.54 to 0.01)	0.12 (-0.17 to 0.40)	0.14 (-0.16 to 0.41)	-0.24 (-0.49 to 0.06)
miR-26a	-0.16 (-0.43 to 0.13)	-0.40** (-0.62 to -0.12)	0.34* (0.05 to 0.58)	0.24 (-0.05 to 0.50)	-0.25 (-0.51 to 0.04)
miR-27a	-0.05 (-0.33 to 0.24)	-0.30* (-0.54 to -0.01)	0.22 (-0.07 to 0.48)	0.34* (0.05 to 0.57)	-0.13 (-0.41 to 0.16)
miR-27b	-0.25 (-0.51 to 0.04)	-0.24 (-0.50 to 0.05)	0.11 (-0.18 to 0.40)	0.06 (-0.23 to 0.34)	-0.18 (-0.45 to 0.12)
miR-29c	-0.29* (-0.54 to -0.01)	-0.25 (-0.51 to 0.04)	0.31 (0.02 to 0.55)	0.28 (0.01 to 0.53)	-0.28 (-0.53 to 0.01)
miR-30c	-0.22 (-0.48 to 0.07)	-0.41** (-0.63 to -0.13)	0.05 (-0.23 to 0.34)	0.26 (-0.03 to 0.52)	-0.32* (-0.56 to -0.02)
miR-101	-0.20 (-0.46 to 0.09)	-0.29* (-0.53 to 0.02)	0.33* (0.04 to 0.57)	0.26 (-0.03 to 0.52)	-0.19 (-0.46 to 0.10)
miR-130a	-0.30* (-0.55 to -0.01)	-0.40** (-0.62 to -0.11)	0.26 (-0.03 to 0.52)	0.22 (-0.07 to 0.48)	-0.40** (-0.62 to -0.11)
miR-151-3p	-0.19 (-0.46 to 0.10)	-0.35* (-0.58 to -0.06)	-0.01 (-0.30 to 0.28)	0.31* (0.02 to 0.55)	-0.25 (-0.51 to 0.04)
miR-191	-0.30* (-0.55 to -0.01)	-0.44** (-0.65 to -0.17)	0.17 (-0.13 to 0.44)	0.30* (0.01 to 0.55)	-0.10 (-0.38 to 0.20)
miR-199a-3p	-0.06 (-0.35 to 0.23)	-0.31* (-0.55 to -0.01)	0.12 (-0.17 to 0.40)	0.25 (-0.04 to 0.51)	-0.23 (-0.54 to 0.13)
miR-221	-0.21 (-0.47 to 0.08)	-0.34* (-0.57 to -0.05)	0.34* (0.05 to 0.57)	0.20 (-0.09 to 0.46)	-0.24 (-0.50 to 0.05)
miR-335	-0.16 (-0.43 to 0.14)	-0.36* (-0.59 to -0.07)	0.31* (0.02 to 0.55)	0.32* (0.02 to 0.56)	-0.31* (-0.55 to -0.02)
miR-374-5p	-0.22 (-0.48 to 0.07)	-0.20 (-0.46 to 0.10)	0.27 (-0.02 to 0.52)	0.20 (-0.09 to 0.47)	-0.27 (-0.52 to 0.02)
miR-532-3p	-0.16 (-0.44 to 0.13)	-0.24 (-0.49 to 0.05)	0.07 (-0.22 to 0.35)	0.18 (-0.11 to 0.45)	-0.17 (-0.44 to 0.13)
miR-652	-0.28 (-0.53 to 0.01)	-0.36* (-0.59 to -0.07)	0.20 (-0.10 to 0.46)	0.18 (-0.11 to 0.45)	-0.14 (-0.42 to 0.15)

Significant correlation coefficients are bold

Supplementary Table 3: Correlation of miRNA expression with genetic risk variants for alcohol-associated cirrhosis

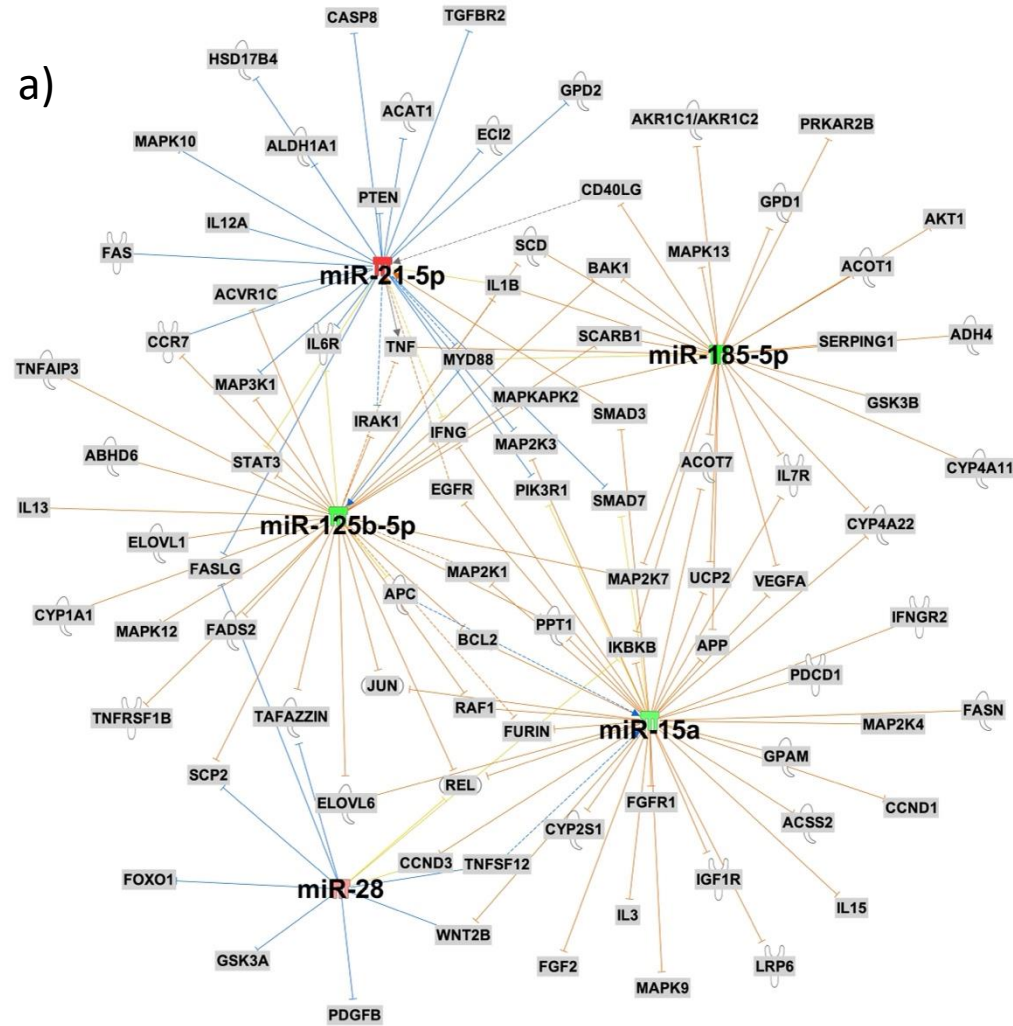
	<i>PNPLA3</i> rs2294915	<i>TM6SF2</i> rs10401969	<i>HSD17B13</i> rs10433937	<i>FAF2</i> rs11134977	<i>SERPINA1</i> rs28929474	<i>MARC1</i> rs2642438	<i>MBOAT7</i> rs641738
miR-16	0.06	0.04	0.25	0.13	-0.03	-0.06	-0.3
miR-19a	0.05	0.04	0.51***	-0.04	-0.09	-0.08	0
miR-19b	0.11	0.03	0.22	0.12	0	-0.03	-0.04
miR-26a	-0.13	0.26	0.32*	-0.01	0.05	-0.11	0
miR-27a	-0.03	0.19	0.2	0.3	-0.04	-0.19	0.11
miR-27b	0.25	0.33*	0.17	-0.01	0	-0.2	-0.04
miR-29c	0.01	0.23	0.06	0.29	0.05	0.01	0.22
miR-30c	0.09	0.21	0.19	0.13	0.12	-0.02	-0.13
miR-101	0.09	0.28	0.32*	0.14	0.11	0.08	-0.1
miR-130a	0.04	0.2	0.22	0.34*	0.22	0.02	0.19
miR-151-3p	-0.04	0.17	0.38*	0.18	0.15	0.03	-0.02
miR-152	0.2	-0.17	0.3	0.1	0.14	0.2	-0.05
miR-191	0.11	0.13	0.3	0.13	0.23	0.04	-0.09
miR-199a-3p	0.05	0.19	0.3	-0.03	0.07	-0.28	0.19
miR-221	0.08	0.2	0.32*	0.1	0.08	-0.21	0.19
miR-301	-0.12	0.19	0.45**	0.1	0.14	-0.07	-0.29
miR-335	0.31	-0.08	0.28	-0.15	0.09	-0.35*	0.03
miR-374-5p	-0.26	0.23	0.07	0.23	0.09	0.27	0.17
miR-379	0.09	0.17	0.16	0.13	0.07	-0.22	0.11
miR-410	-0.2	0	0.08	0.26	0.07	-0.14	-0.03
miR-532-3p	0.1	0.28	0.18	0.21	0.11	-0.07	-0.08
miR-652	0.08	-0.01	0.02	0.04	0.09	-0.19	0.15

Significant correlation coefficients are bold

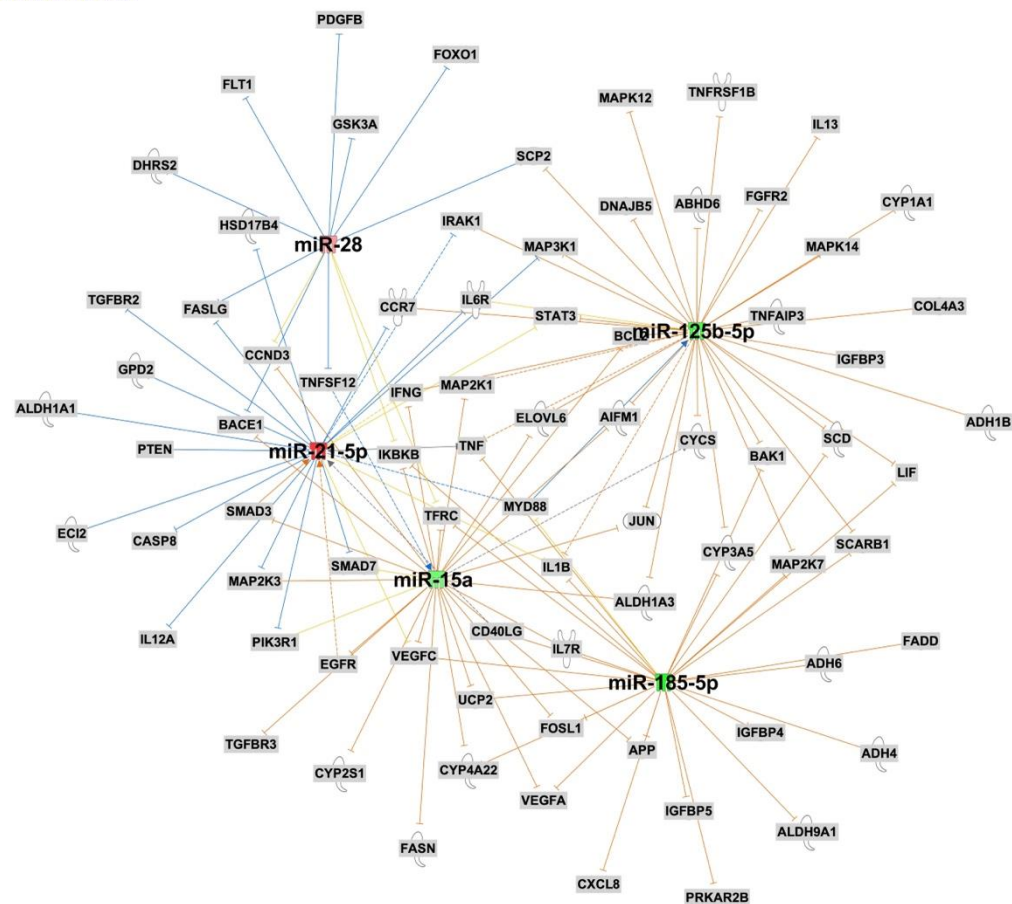


Supplementary Figure 1: Comparison of differentially expressed microRNAs in male and female cases vs controls. Vann diagram shows differentially expressed microRNAs between control and cases by gender: **a)** male **b)** female. The x-axis is relative expression ($\Delta\Delta Ct$); the y-axis is p value as $-\log_{10}$ scale. The green dots symbolise the significantly downregulated microRNAs based on $p < 0.05$) and $\Delta\Delta Ct$ value greater than 1.5. The common microRNAs are marked in opened circle.

a)



Path Designer New My Pathway 1



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Supplementary Figure 2: Target mRNA and microRNA-mRNA interactions derived from select AH specific microRNAs. Target mRNAs of 5 microRNAs associated with AH were overlaid on **a)** disease and functions, and **b)** Toxic functions using ‘Pathway design’ option in IPA. The top interaction networks are presented.