



Article

# Profile of mir-23 expression and possible role in regulation of glutamic acid decarboxylase during postnatal retinal development

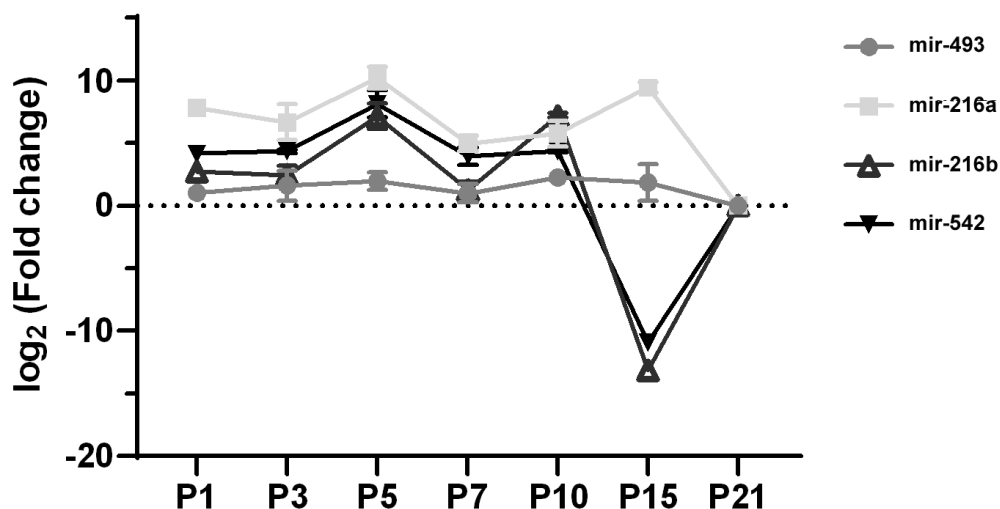
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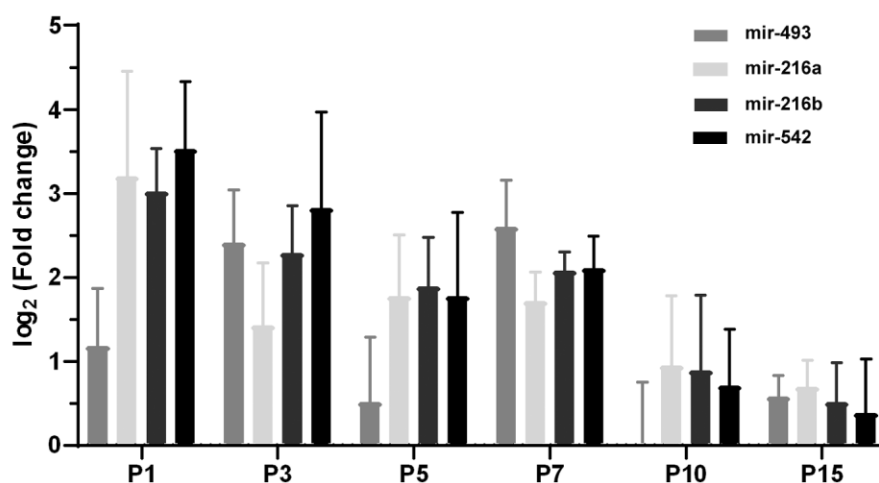
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**Figure S1.** Expression alteration of miRNAs revealed by RNA-sequencing. Fold changes are represented as log<sub>2</sub> Fold change compared to P21.



**Figure S2.** Expression alteration of miRNAs revealed by qPCR measurements. The change in the miRNA expression was calculated with U6snRNA as reference gene for normalization. Fold changes are represented as log<sub>2</sub> Fold change compared to P21.

**Table S1.** Multiple comparison of miRNAs expression in different time points analyzed by ordinary one-way ANOVA with Tukey's post-hoc test. Data obtained from RT-qPCR and miRNA-sequencing (\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ , \*\*\*\*  $p < 0.0001$ ).

mir-25 RT-qP		P1	P3	P5	P7	P10	P15	P21
	P1	-	**** <0.0001	**** <0.0001	*** 0.0001	*** 0.0004	**** <0.0001	**** <0.0001

P3	-	**** <0.0001	* 0.0298	**** <0.0001	**** <0.0001	**** <0.0001
P5		-	**** <0.0001	ns	**** <0.0001	ns
P7			-	**** <0.0001	**** <0.0001	**** <0.0001
P10				-	**** <0.0001	ns
P15					-	*** 0.0004
P21						-

	P1	P3	P5	P7	P10	P15	P21
mir-23 miRNA-Seq	P1	-	ns 0.0162	ns	ns	** 0.0017	**** <0.0001
	P3	-	ns	ns	ns	ns	*** 0.0002
	P5		-	ns	ns	ns	ns
	P7			-	ns	ns	* 0.0262
	P10				-	ns	ns
	P15					-	ns
	P21						-

	P1	P3	P5	P7	P10	P15	P21
mir-216a RT-qPCR	P1	-	** 0.0022	* 0.0257	* 0.0169	**** <0.0001	**** <0.0001
	P3	-	ns	ns	ns	ns	* 0.0255
	P5		-	ns	ns	ns	** 0.0021
	P7			-	ns	ns	** 0.0035
	P10				-	ns	ns
	P15					-	ns
	P21						-

P21		-						
		P1	P3	P5	P7	P10	P15	P21
mir-216a miRNA-Seq	P1	-	ns	**** <0.0001	**** <0.0001	*** 0.0002	** 0.007	**** <0.0001
	P3		-	**** <0.0001	** 0.0037	ns	**** <0.0001	**** <0.0001
	P5			-	**** <0.0001	**** <0.0001	ns	**** <0.0001
	P7				-	ns	**** <0.0001	**** <0.0001
	P10					-	**** <0.0001	**** <0.0001
	P15						-	**** <0.0001
	P21							-
		P1	P3	P5	P7	P10	P15	P21
mir-216b RT-qPCR	P1	-	ns	** 0.0089	ns	**** <0.0001	**** <0.0001	**** <0.0001
	P3		-	ns	ns	*** 0.0005	**** <0.0001	**** <0.0001
	P5			-	ns	* 0.0314	*** 0.0007	**** <0.0001
	P7				-	** 0.005	**** <0.0001	**** <0.0001
	P10					-	ns	ns
	P15						-	ns
	P21							-
		P1	P3	P5	P7	P10	P15	P21
mir-216b miRNA-Seq	P1	-	ns	**** <0.0001	**** <0.0001	**** <0.0001	**** <0.0001	**** <0.0001
	P3		-	**** <0.0001	** 0.0011	**** <0.0001	**** <0.0001	**** <0.0001

mir-495 RT-qPCR	P5			-	**** <0.0001	ns	**** <0.0001	**** <0.0001
	P7				-	**** <0.0001	**** <0.0001	*** 0.0009
	P10					-	**** <0.0001	**** <0.0001
	P15						-	**** <0.0001
	P21							-
mir-495 miRNA-Seq		P1	P3	P5	P7	P10	P15	P21
	P1	-	ns	ns	ns	ns	ns	**** <0.0001
	P3		-	ns	ns	ns	ns	**** <0.0001
	P5			-	ns	ns	ns	**** <0.0001
	P7				-	ns	ns	**** <0.0001
	P10					-	ns	**** <0.0001
	P15						-	**** <0.0001
	P21							-
mir-495 miRNA-Seq		P1	P3	P5	P7	P10	P15	P21
	P1	-	** 0.0079	*** 0.0004	** 0.0048	** 0.0074	** 0.0014	*** 0.0003
	P3		-	ns	ns	ns	ns	ns
	P5			-	ns	ns	ns	ns
	P7				-	ns	ns	ns
	P10					-	ns	ns
	P15						-	ns

		P21							-
			P1	P3	P5	P7	P10	P15	P21
mir-542 RT-qPCR	P1	-	ns	*** 0.0002	** 0.0047	**** <0.0001	**** <0.0001	**** <0.0001	**** <0.0001
	P3		-	ns	ns	**** <0.0001	**** <0.0001	**** <0.0001	**** <0.0001
	P5			-	ns	ns	** 0.0065	*** 0.0002	*** 0.0002
	P7				-	** 0.006	*** 0.0003	**** <0.0001	**** <0.0001
	P10					-	ns	ns	ns
	P15						-	ns	ns
	P21								-
			P1	P3	P5	P7	P10	P15	P21
mir-542 miRNA-Seq	P1	-	ns	**** <0.0001	ns	ns	**** <0.0001	**** <0.0001	**** <0.0001
	P3		-	**** <0.0001	ns	ns	**** <0.0001	**** <0.0001	**** <0.0001
	P5			-	**** <0.0001	**** <0.0001	**** <0.0001	**** <0.0001	**** <0.0001
	P7				-	ns	**** <0.0001	**** <0.0001	**** <0.0001
	P10					-	**** <0.0001	**** <0.0001	**** <0.0001
	P15						-	**** <0.0001	**** <0.0001
	P21								-
			P1	P3	P5	P7	P10	P15	P21
mir-493 RT-qPCR	P1	-	ns	ns	* 0.0198	ns	ns	ns	ns

mir-493 miRNA-Seq	P3	-	*** 0.0005	ns	**** <0.0001	*** 0.0008	****
	P5		-	**** <0.0001	ns	ns	ns
	P7			-	**** <0.0001	*** 0.0002	**** <0.0001
	P10				-	ns	ns
	P15					-	ns
	P21						-
	P1	P3	P5	P7	P10	P15	P21
P1	-	ns	ns	ns	ns	ns	ns
P3		-	ns	ns	ns	ns	** 0.0058
P5			-	ns	ns	ns	*** 0.0003
P7				-	ns	ns	ns
P10					-	ns	**** <0.0001
P15						-	*** 0.0009
P21							-

**Table S2.** Multiple comparison of GAD1 mRNA expression at different time points analyzed by ordinary one-way ANOVA with Tukey's post-hoc test. (\* p<0.05, \*\* p<0.01, \*\*\* p<0.001, \*\*\*\* p<0.0001).

	P1	P3	P5	P7	P10	P15	P21
P1	-	*** 0.0006	**** <0.0001	**** <0.0001	**** <0.0001	**** <0.0001	**** <0.0001
P3		-	ns	ns	** 0.0048	**** <0.0001	**** <0.0001
P5			-	ns	ns	*** 0.0006	** 0.0055
P7				-	ns	**** <0.0001	*** 0.0004

<b>P10</b>	-	ns	ns
<b>P15</b>	-	ns	
<b>P21</b>			-

**Table 3.** Ratio of GAD67 positive, mir-23 positive and colabelled cells in every group (a.,) and the ratio of GAD67 positive cells before and after P7 (b.,).

a.,

	INL			GCL		
	mir-23 positive cell	GAD67 positive cell	colabelled	mir-23 positive cell	GAD67 positive cell	colabelled
P1	0%	50%	50%	30%	9%	61%
P3	38%	63	0%	33%	17%	50%
P5	10%	60%	30%	33%	0%	67%
P7	0%	62%	38%	34%	0%	66%
P10	0%	71%	29%	57%	0%	43%
P15	0%	96%	4%	40%	60%	0%
P21	3%	84%	13%	86%	0%	14%

b.,

	INL		GCL	
	GAD67 positive cells	colabelled	GAD67 positive cells	colabelled
Before P7	67%	33%	9%	91%
After P7	88%	12%	25%	75%