

Table S1. Nucleotide sequences of the primers used and amplicon size in base pairs (bp) of the studied genes.

Gene symbol	Forward primer	Reverse primer	Amplicon size (bp)
<i>Adipoq</i>	GCTCAGGATGCTACTGTTG	TCTCACCCCTTAGGACCAAG	241
<i>Adipor1</i>	AGCACCGGCAGACAAGAG	GGTGGGTACAACACCACTCA	62
<i>Adipor2</i>	AAAAGGAAAGGCAGAGAATGG	TACACACAGAGACGGGCAAC	168
<i>Cpt1a</i>	GCTCGCACATTACAAGGACAT	TGGACACCACATAGAGGCAG	250
<i>Cpt1b</i>	GCAAACCTGGACCGAGAAGAG	CCTTGAAGAAGCGACCTTTG	180
<i>Fasn</i>	AGAGAGAGGGCTGTGCTTGC	CTGAGGTCCAGAGATGGTCA	179
<i>Gdi</i>	CCGCACAAGGCAAATACATC	GACTCTCTGAACCGTCATCA	159
<i>Lep</i>	TTCACACACGCAGTCGGTAT	AGGTCTCGCAGGTTCTCCAG	186
<i>Lepr</i>	AGCCAAACAAAAGCACCATT	TCCTGAGCCATCCAGTCTCT	174
<i>Pnpla2</i>	TCGTATCACCAACACCAGCA	CCCTCCAGTCCTCTCCTCA	244
<i>Pparg</i>	GATCCTCCTGTTGACCCAGA	TCAAAGGAATGGGAGTGGTC	164
<i>Scd1</i>	ATCCCCTCCTCCAAGGTCTA	CGGGCCCATTATATACATC	188
<i>Srebp1</i>	CCCACCCCTTACACACC	GCCTGCGGTCTTCATTGT	198
<i>Ucp1</i>	GGGCTGATTCTTTTGGTCT	GGTGGTGATGGTCCCTAAGA	229
<i>β-actin</i>	TACAGCTTCACCACCACAGC	TCTCCAGGGAGGAAGAGGAT	120

Table S2. Associations between leptin and adiponectin concentrations and maternal parameters throughout lactation with the expression of selected miRNAs in milk at day 5 (d5). To study the effect of the TX diet, data was divided in both groups. Statistics: r, Spearman rank coefficient significant at *, p≤0.05; **, p≤0.00.

			Leptin								Adiponectin					Maternal body weight				Maternal body fat				Cumulative intake			
			Milk			Plasma					Milk			Plasma													
d5			d5	d10	d15		d5	d10	d15	d21	d5	d10	d15		d5	d10	d15	d21	d5	d10	d15	d21	d5	d10	d15	d21	d21
miR-26a	Control	r	-0.857*	-0.357	0.107		-0.214	-0.464	-0.250	0.107	-0.577	0.000	-0.250	0.505	0.500	0.500	-0.214	-0.360	-0.214	-0.273	0.107	-0.143	0.000	0.000			0.107
		p	0.014	0.432	0.819		0.645	0.294	0.589	0.819	0.175	1.000	0.589	0.248	0.391	0.253	0.645	0.427	0.645	0.554	0.819	0.760	1.000	1.000			0.819
	TX	r	0.714	0.607	0.679		0.986**	0.786*	0.500	0.393	0.750	0.571	0.321	0.679	0.700	0.250	0.793*	0.857*	1.000**	0.893**	0.393	0.214	0.286	0.321			0.750
		p	0.071	0.148	0.094		0.000	0.036	0.253	0.383	0.052	0.180	0.482	0.094	0.188	0.589	0.033	0.014		0.007	0.383	0.645	0.535	0.482			0.052
miR-27a	Control	r	-0.857*	-0.250	0.143		-0.214	-0.429	-0.250	0.286	-0.378	0.071	-0.107	0.595	0.600	0.500	-0.179	-0.234	-0.179	-0.018	0.143	-0.071	0.250	0.250			0.107
		p	0.014	0.589	0.760		0.645	0.337	0.589	0.535	0.403	0.879	0.819	0.159	0.285	0.253	0.702	0.613	0.702	0.969	0.760	0.879	0.589	0.589			0.819
	TX	r	0.643	0.714	0.821*		0.812*	0.857*	0.857*	0.607	0.857*	0.607	0.607	0.643	0.900*	0.571	0.487	0.571	0.857*	0.857*	0.357	0.286	0.357	0.500			0.571
		p	0.119	0.071	0.023		0.050	0.014	0.014	0.148	0.014	0.148	0.148	0.119	0.037	0.180	0.268	0.180	0.014	0.014	0.432	0.535	0.432	0.253			0.180
miR-29a	Control	r	-0.857*	-0.286	-0.107		-0.214	-0.393	-0.286	0.000	-0.559	-0.214	-0.500	0.414	0.600	0.357	-0.107	-0.234	-0.107	-0.164	0.214	-0.071	0.000	0.000			0.107
		p	0.014	0.535	0.819		0.645	0.383	0.535	1.000	0.192	0.645	0.253	0.355	0.285	0.432	0.819	0.613	0.819	0.726	0.645	0.879	1.000	1.000			0.819
	TX	r	0.679	0.643	0.429		0.986**	0.571	0.179	0.107	0.571	0.321	0.000	0.357	0.700	-0.036	0.811*	0.857*	0.893**	0.714	0.071	-0.107	0.036	0.000			0.714
		p	0.094	0.119	0.337		0.000	0.180	0.702	0.819	0.180	0.482	1.000	0.432	0.188	0.939	0.027	0.014	0.007	0.071	0.879	0.819	0.939	1.000			0.071
miR-103	Control	r	-0.750	-0.393	0.071		-0.250	-0.500	-0.214	0.214	-0.450	-0.071	-0.179	0.631	0.100	0.643	-0.143	-0.306	-0.143	-0.109	0.036	-0.179	-0.071	-0.071			0.250
		p	0.052	0.383	0.879		0.589	0.253	0.645	0.645	0.310	0.879	0.702	0.129	0.873	0.119	0.760	0.504	0.760	0.816	0.939	0.702	0.879	0.879			0.589
	TX	r	0.643	0.679	0.786*		0.928**	0.750	0.643	0.357	0.857*	0.464	0.357	0.643	0.700	0.286	0.757*	0.821*	0.964**	0.857*	0.286	0.143	0.179	0.250			0.714
		p	0.119	0.094	0.036		0.008	0.052	0.119	0.432	0.014	0.294	0.432	0.119	0.188	0.535	0.049	0.023	0.000	0.014	0.535	0.760	0.702	0.589			0.071
miR-200a	Control	r	-0.750	-0.393	0.071		-0.250	-0.500	-0.214	0.214	-0.450	-0.071	-0.179	0.631	0.100	0.643	-0.143	-0.306	-0.143	-0.109	0.036	-0.179	-0.071	-0.071			0.250
		p	0.052	0.383	0.879		0.589	0.253	0.645	0.645	0.310	0.879	0.702	0.129	0.873	0.119	0.760	0.504	0.760	0.816	0.939	0.702	0.879	0.879			0.589
	TX	r	0.786*	0.857*	0.607		0.812*	0.857*	0.429	0.500	0.714	0.679	0.429	0.357	0.900*	0.393	0.468	0.571	0.857*	0.964**	0.143	0.000	0.214	0.429			0.679
		p	0.036	0.014	0.148		0.050	0.014	0.337	0.253	0.071	0.094	0.337	0.432	0.037	0.383	0.289	0.180	0.014	0.000	0.760	1.000	0.645	0.337			0.094
miR-200b	Control	r	-0.714	-0.250	0.036		-0.179	-0.393	-0.143	0.286	-0.306	-0.214	-0.214	0.667	0.100	0.607	0.000	-0.126	0.000	0.073	0.179	-0.036	0.071	0.071			0.286
		p	0.071	0.589	0.939		0.702	0.383	0.760	0.535	0.504	0.645	0.645	0.102	0.873	0.148	1.000	0.788	1.000	0.877	0.702	0.939	0.879	0.879			0.535
	TX	r	0.714	0.643	0.643		0.899*	0.643	0.286	0.179	0.714	0.357	0.036	0.429	0.600	-0.036	0.811*	0.857*	0.929**	0.821*	0.071	-0.143	0.000	0.071			0.893**
		p	0.071	0.119	0.119		0.015	0.119	0.535	0.702	0.071	0.432	0.939	0.337	0.285	0.939	0.027	0.014	0.003	0.023	0.879	0.760	1.000	0.879			0.007
miR-221	Control	r	-0.214	-0.321	-0.786*		-0.429	-0.357	-0.393	-0.036	-0.018	-0.536	-0.714	0.270	-0.100	0.214	0.179	0.126	0.179	0.564	-0.143	-0.286	-0.357	-0.357			0.429
		p	0.645	0.482	0.036		0.337	0.432	0.383	0.939	0.969	0.215	0.071	0.558	0.873	0.645	0.702	0.788	0.702	0.187	0.760	0.535	0.432	0.432			0.337
	TX	r	0.929**	0.429	0.107		0.696	0.786*	0.214	0.786*	0.071	0.714	0.179	0.143	0.200	0.321	0.054	0.107	0.500	0.536	0.214	0.143	0.679	0.679			0.571
		p	0.003	0.337	0.819		0.125	0.036	0.645	0.036	0.879	0.071	0.702	0.760	0.747	0.482	0.908	0.819	0.253	0.215	0.645	0.760	0.094	0.094			0.180
miR-222	Control	r	-0.714	-0.429	0.179		-0.179	-0.536	-0.143	0.321	-0.414	0.000	-0.214	0.703	0.100	0.750	-0.071	-0.270	-0.071	-0.164	0.000	-0.250	-0.107	-0.107			0.393
		p	0.071	0.337	0.702		0.702	0.215	0.760	0.482	0.355	1.000	0.645	0.078	0.873	0.052	0.879	0.558	0.879	0.726	1.000	0.589	0.819	0.819			0.383
	TX	r	0.679	0.393	0.679		0.754	0.643	0.321	0.357	0.607	0.429	0.071	0.464	0.300	0.000	0.577	0.607	0.750	0.750	0.179	-0.036	0.143	0.286			0.929**
		p	0.094	0.383	0.094		0.084	0.119	0.482	0.432	0.148	0.337	0.879	0.294	0.624	1.000	0.175	0.148	0.052	0.052	0.702	0.939	0.760	0.535			0.003

Table S3. Associations between leptin and adiponectin concentrations and maternal parameters throughout lactation with the expression of selected miRNAs in milk at day 15 (d15). To study the effect of the TX diet, data was divided in both groups. Statistics: r, Spearman rank coefficient significant at *, $p \leq 0.05$; **, $p \leq 0.00$.

			Leptin								Adiponectin					Maternal body weight				Maternal body fat				Cumulative intake
d15			Milk			Plasma					Milk			Plasma		d5	d10	d15	d21	d5	d10	d15	d21	d21
miR-26a	Control	r	0.036	-0.214	-0.714	-0.429	-0.143	-0.286	-0.321	-0.090	-0.607	-0.214	0.018	-0.800	0.036	-0.036	-0.090	-0.036	0.382	-0.143	-0.071	-0.464	-0.464	0.036
		p	0.939	0.645	0.071	0.337	0.760	0.535	0.482	0.848	0.148	0.645	0.969	0.104	0.939	0.939	0.848	0.939	0.398	0.760	0.879	0.294	0.294	0.939
	TX	r	0.179	0.500	0.000	0.058	-0.071	-0.321	-0.250	0.071	-0.250	-0.357	-0.714	0.100	-0.321	-0.162	-0.143	-0.107	0.071	-0.857*	-0.893**	-0.607	-0.357	0.286
		p	0.702	0.253	1.000	0.913	0.879	0.482	0.589	0.879	0.589	0.432	0.071	0.873	0.482	0.728	0.760	0.819	0.879	0.014	0.007	0.148	0.432	0.535
miR-27a	Control	r	0.107	0.179	-0.571	-0.036	0.143	0.036	0.000	0.288	-0.821*	-0.464	0.144	-0.300	0.000	0.464	0.468	0.464	0.655	0.286	0.250	-0.036	-0.036	0.286
		p	0.819	0.702	0.180	0.939	0.760	0.939	1.000	0.531	0.023	0.294	0.758	0.624	1.000	0.294	0.289	0.294	0.111	0.535	0.589	0.939	0.939	0.535
	TX	r	0.750	0.607	0.036	0.899*	0.429	-0.179	0.071	0.179	0.214	-0.286	-0.107	0.200	-0.214	0.505	0.536	0.607	0.464	-0.250	-0.393	0.000	-0.071	0.643
		p	0.052	0.148	0.939	0.015	0.337	0.702	0.879	0.702	0.645	0.535	0.819	0.747	0.645	0.248	0.215	0.148	0.294	0.589	0.383	1.000	0.879	0.119
miR-29a	Control	r	-0.071	-0.286	-0.643	-0.393	-0.214	-0.250	-0.286	-0.198	-0.643	-0.321	0.126	-0.800	0.179	0.000	-0.126	0.000	0.255	-0.107	-0.107	-0.536	-0.536	0.143
		p	0.879	0.535	0.119	0.383	0.645	0.589	0.535	0.670	0.119	0.482	0.788	0.104	0.702	1.000	0.788	1.000	0.582	0.819	0.819	0.215	0.215	0.760
	TX	r	0.679	0.643	0.393	0.754	0.393	0.107	0.000	0.464	0.000	-0.321	-0.036	0.100	-0.286	0.595	0.607	0.643	0.464	-0.393	-0.536	-0.214	-0.214	0.821*
		p	0.094	0.119	0.383	0.084	0.383	0.819	1.000	0.294	1.000	0.482	0.939	0.873	0.535	0.159	0.148	0.119	0.294	0.383	0.215	0.645	0.645	0.023
miR-103	Control	r	0.107	0.000	-0.643	-0.286	0.071	-0.179	-0.393	-0.036	-0.643	-0.143	-0.144	-0.800	-0.179	0.000	0.000	0.000	0.346	0.036	0.143	-0.286	-0.286	-0.143
		p	0.819	1.000	0.119	0.535	0.879	0.702	0.383	0.939	0.119	0.760	0.758	0.104	0.702	1.000	1.000	1.000	0.448	0.939	0.760	0.535	0.535	0.760
	TX	r	0.536	0.679	0.321	0.754	0.250	0.036	-0.143	0.429	-0.143	-0.357	-0.214	0.100	-0.321	0.487	0.500	0.500	0.357	-0.571	-0.679	-0.393	-0.357	0.679
		p	0.215	0.094	0.482	0.084	0.589	0.939	0.760	0.337	0.760	0.432	0.645	0.873	0.482	0.268	0.253	0.253	0.432	0.180	0.094	0.383	0.432	0.094
miR-200a	Control	r	0.071	-0.429	-0.714	-0.607	-0.286	-0.464	-0.500	-0.270	-0.286	-0.036	-0.162	-0.900*	-0.036	-0.357	-0.414	-0.357	0.145	-0.464	-0.321	-0.679	-0.679	-0.143
		p	0.879	0.337	0.071	0.148	0.535	0.294	0.253	0.558	0.535	0.939	0.728	0.037	0.939	0.432	0.355	0.432	0.756	0.294	0.482	0.094	0.094	0.760
	TX	r	0.321	0.679	0.357	0.348	0.107	0.107	-0.179	0.429	-0.286	-0.286	-0.429	0.100	-0.250	0.162	0.179	0.214	0.214	-0.786*	-0.821*	-0.571	-0.393	0.500
		p	0.482	0.094	0.432	0.499	0.819	0.819	0.702	0.337	0.535	0.535	0.337	0.873	0.589	0.728	0.702	0.645	0.645	0.036	0.023	0.180	0.383	0.253
miR-200b	Control	r	0.036	-0.214	-0.714	-0.429	-0.143	-0.286	-0.321	-0.090	-0.607	-0.214	0.018	-0.800	0.036	-0.036	-0.090	-0.036	0.382	-0.143	-0.071	-0.464	-0.464	0.036
		p	0.939	0.645	0.071	0.337	0.760	0.535	0.482	0.848	0.148	0.645	0.969	0.104	0.939	0.939	0.848	0.939	0.398	0.760	0.879	0.294	0.294	0.939
	TX	r	0.464	0.571	-0.107	0.754	0.143	-0.179	-0.143	0.071	-0.107	-0.357	-0.357	-0.100	-0.250	0.306	0.321	0.321	0.143	-0.500	-0.536	-0.214	-0.321	0.321
		p	0.294	0.180	0.819	0.084	0.760	0.702	0.760	0.879	0.819	0.432	0.432	0.873	0.589	0.504	0.482	0.482	0.760	0.253	0.215	0.645	0.482	0.482
miR-221	Control	r	0.771	0.600	0.086	0.771	0.600	0.829*	-0.029	0.493	-0.657	-0.143	-0.319	-0.600	-0.257	0.943**	0.841*	0.943**	-0.029	0.600	0.543	-0.086	-0.086	0.314
		p	0.072	0.208	0.872	0.072	0.208	0.042	0.957	0.321	0.156	0.787	0.538	0.400	0.623	0.005	0.036	0.005	0.956	0.208	0.266	0.872	0.872	0.544
	TX	r	0.250	-0.036	-0.357	0.145	0.000	-0.036	0.071	-0.321	-0.107	-0.286	-0.107	-0.700	-0.107	0.072	0.036	0.036	-0.286	-0.036	0.036	0.286	-0.071	-0.036
		p	0.589	0.939	0.432	0.784	1.000	0.939	0.879	0.482	0.819	0.535	0.819	0.188	0.819	0.878	0.939	0.939	0.535	0.939	0.939	0.535	0.879	0.939
miR-222	Control	r	0.143	-0.214	-0.429	-0.214	0.000	-0.143	-0.679	-0.432	-0.393	-0.179	-0.396	-0.600	-0.214	-0.214	-0.360	-0.214	-0.364	-0.143	-0.071	-0.679	-0.679	-0.250
		p	0.760	0.645	0.337	0.645	1.000	0.760	0.094	0.333	0.383	0.702	0.379	0.285	0.645	0.645	0.427	0.645	0.423	0.760	0.879	0.094	0.094	0.589
	TX	r	0.786*	0.857*	0.571	0.580	0.679	0.357	0.393	0.607	0.357	0.107	-0.036	0.300	0.143	0.252	0.321	0.607	0.714	-0.321	-0.429	-0.036	0.214	0.786*
		p	0.036	0.014	0.180	0.228	0.094	0.432	0.383	0.148	0.432	0.819	0.939	0.624	0.760	0.585	0.482	0.148	0.071	0.482	0.337	0.939	0.645	0.036

Table S4. Associations between milk L/A ratio and diet-modulated miRNAs throughout lactation with offspring body fat in adulthood divided by sex. Statistics: r, Spearman rank coefficient significant at *, $p \leq 0.05$; **, $p \leq 0.00$.

Milk			Male offspring body fat (%)		Female offspring body fat (%)	
			d60	d90	d60	d90
L/A ratio	d5	r	0.299	0.262	0.266	0.422
		p	0.299	0.366	0.358	0.132
	d10	r	0.073	0.020	0.373	0.148
		p	0.805	0.946	0.189	0.614
	d15	r	0.367	0.486	0.741**	0.556*
		p	0.197	0.078	0.002	0.039
miR-27a	d5	r	0.068	-0.275	0.002	0.015
		p	0.817	0.342	0.994	0.958
	d15	r	-0.429	-0.741**	-0.560*	-0.662*
		p	0.126	0.002	0.037	0.010
miR-103	d5	r	-0.002	-0.332	0.046	-0.020
		p	0.994	0.246	0.876	0.946
	d15	r	-0.174	-0.657*	-0.165	-0.525*
		p	0.553	0.011	0.573	0.054
miR-200a	d5	r	-0.169	-0.407	-0.055	-0.204
		p	0.563	0.149	0.852	0.483
	d15	r	-0.103	-0.596*	-0.011	-0.609*
		p	0.725	0.025	0.970	0.021
miR-222	d5	r	-0.266	-0.534*	-0.007	-0.253
		p	0.358	0.049	0.982	0.383
	d15	r	-0.257	-0.613*	-0.059	-0.582*
		p	0.375	0.020	0.840	0.029