Micro-RNA response to imatinib mesylate in patients with chronic myeloid leukemia

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miRNA name	miRNA mature sequence (5'- 3')	q-PCR primer sequence (5'-3')
hsa-miR-18 ¹	<u>UAAGGUGCAUCUAGUG</u> CAGAUAG	GGTTGGT <u>TAAGGTGCATCTAGTG</u>
hsa-miR-23 ¹	AUCACAUUGCCAGGGAUUUCC	TAATTATCACATTGCCAGGGAT
hsa-miR-27 ¹	UUCACAGUGGCUAAGUUCCGC	GGATTACGTTCACAGTGGCTAAG
hsa-miR-32	UAUUGCACAUUACUAAGUUGCA	GGTTCAGCTTATTGCACATTACTAAGT
hsa-miR-98	<u>UGAGGUAGUAAGUUGUA</u> UUGUU	GGGTGG <u>TGAGGTAGTAAGTTGTA</u>
hsa-miR-132	UAACAGUCUACAGCCAUGGUCG	GGGTGTTAACAGTCTACAGCCAT
hsa-miR-142-3p	UGUAGUGUUUCCUACUUUAUGGA	GGGTGGT <u>TGTAGTGTTTCCTACT</u>
hsa-miR-143	UGAGAUGAAGCACUGUAGCUC	CCGGAATTC <u>TGAGATGAAGCACTG</u>
hsa-miR-145	GUCCAGUUUUCCCAGGAAUCCCU	AAGGTT <u>GTCCAGTTTTCCCAGGAA</u>
hsa-miR-146a	<u>UGAGAACUGAAUUCCAUG</u> GGUU	AACTGATGAGAACTGAATTCCATG
hsa-miR-148a	UCAGUGCACUACAGAACUUUGU	GGTTGTCAGTGCACTACAGAACTT
hsa-miR-150	UCUCCCAACCCUUGUACCAGUG	AACCTGA <u>TCTCCCAACCCTTGTA</u>
hsa-miR-155 ²	UUAAUGCUAAUCGUGAUAGGGGU	-
hsa-miR-181a	AACAUUCAACGCUGUCGGUGAGU	GGTTGGT <u>AACATTCAACGCTGTC</u>
hsa-miR-199b-5p	CCCAGUGUUUAGACUAUCUGUUC	GTCAGG <u>CCCAGTGTTTAGACTAT</u>
hsa-miR-222	AGCUACAUCUGGCUACUGGGU	GGAACAAGCTACATCTGGCTACT
hsa-miR-223	UGUCAGUUUGUCAAAUACCCCA	CCACGTC <u>TGTCAGTTTGTCAAA</u>
hsa-miR-301a	CAGUGCAAUAGUAUUGUCAAAGC	GTCAGG <u>CAGTGCAATAGTATTGTCA</u>
hsa-miR-374a	UUAUAAUACAACCUGAUAAGUG	CCCTAG <u>TTATAATACAACCTGATAAGTG</u>
hsa-miR-422b	ACUGGACUUGGAGUCAGAAGG	ACTGCTCTGGACTTGGAGTCA

Online Supplementary Table S1. Primer sequences used in this study for qRT-PCR validation experiments.

The overlap between the primer sequence and the mature miRNA is underlined. MiRNAs reproducibly amplified are displayed on a gray background.

¹Primers for these assays detect isoforms a and b of the mature miRNA.

²This miRNA was tested using the corresponding ABI TaqMan assay.

Online Supplementary Table S2. Fold change of miRNAs from TLDA analysis at days 1, 7, and 14 compared to day 0. Complete list of the 141 miRNAs reproducibly detected in CML samples by TLDA analysis. Upper and lower parts represent miRNAs with \log_2 variations of > 0.6, i.e. mean fold change > 1.5 by day 14 (52 miRNAs, 44 down, 8 up). Intermediate parts represent miRNAs with mean fold change of 1.3-1.5 (36 miRNAs, 25 down, 11 up). Central part contains miRNAs with mean fold change < 1.3 (53 miRNAs).

Variation at day 14 vs.	miRNA assay	Day 1		Day 7		Day 14		
day 14 vs. day 0	(ABI 'detector' code)	Fold change	SD	Fold change	SD	Fold change	SD	
Reduced by	hsa-miR-199b-4373100	-0.539	0.871	-0.669	0.597	-3.800	0.745	
more than	hsa-miR-422a-4373200	-0.680	0.829	-2.529	1.560	-2.380	1.522	
1.5-fold	hsa-miR-17-3p-4373120	-0.974	0.955	0.582	0.724	-2.050	1.298	
	hsa-miR-517a-4373243	-2.643	1.544	-1.390	1.328	-1.955	1.133	
	hsa-miR-143-4373134	-1.287	0.911	-0.477	0.610	-1.789	1.368	
	hsa-miR-32-4373056	-0.360	0.832	-1.436	1.781	-1.674	1.456	
	hsa-miR-378-4373024	-0.508	0.438	-0.898	0.440	-1.535	0.489	
	hsa-miR-379-4373023	-0.940	0.522	-1.277	0.269	-1.510	0.616	
	hsa-miR-145-4373133	0.137	0.520	-0.023	0.515	-1.483	1.028	
	hsa-miR-302a-4373275	-0.890	0.703	-2.165	0.784	-1.395	0.748	
	hsa-miR-518e-4373265	0.401	0.812	-0.768	1.442	-1.330	1.474	
	hsa-miR-301-4373064	-0.430	0.556	-0.931	1.194	-1.120	0.596	
	hsa-miR-19a-4373099	-0.342	0.787	-0.457	0.936	-1.046	0.798	
	hsa-miR-98-4373009	-0.691	1.748	-1.054	1.517	-1.042	1.10	
	hsa-miR-148a-4373130	-0.332	0.416	-0.551	0.447	-1.020	0.408	
	hsa-miR-550-4380954	0.133	0.462	0.083	0.402	-1.002	0.54	
	hsa-miR-422b-4373016	-0.994	0.418	-1.323	0.839	-0.984	0.46	
	hsa-miR-514-4373240	-0.548	1.141	-0.669	1.129	-0.899	0.89	
	hsa-miR-130b-4373144	-0.381	0.974	0.266	0.853	-0.887	0.90	
	hsa-miR-142-3p-4373136	-0.060	0.408	-0.469	0.560	-0.882	0.80	
	hsa-miR-223-4373075	-0.240	0.485	-0.187	0.513	-0.878	0.80	
	hsa-miR-20a-4373286	-0.094	0.668	-0.119	0.780	-0.863	0.62	
	hsa-miR-518c-4373247	0.337	1.243	-1.523	1.468	-0.859	1.21	
	hsa-miR-518b-4373246	-0.988	0.995	-0.325	0.678	-0.847	0.96	
	hsa-miR-302c-4373277	-0.220	0.733	-1.618	1.475	-0.846	0.66	
	hsa-miR-106b-4373155	-0.197	0.366	0.071	0.540	-0.841	0.44	
	hsa-miR-19b-4373098	-0.369	0.700	-0.154	0.824	-0.810	0.63	
	hsa-miR-27b-4373068	-0.675	1.039	-0.883	1.375	-0.792	1.01	
	hsa-miR-449-4373207	0.317	0.818	-0.097	1.089	-0.752	1.11	
	hsa-miR-367-4373034	-1.408	0.899	-1.760	1.344	-0.743	1.03	
	hsa-miR-221-4373077	-0.612	1.399	-1.774	1.929	-0.743	1.29	
	hsa-miR-374-4373028	-0.583	0.959	-0.462	0.955	-0.739	0.78	
	hsa-miR-18a-4373118	-0.180	0.558	0.277	0.698	-0.726	0.65	
	hsa-miR-25-4373071	-0.073	0.406	0.309	0.577	-0.721	0.54	
	hsa-miR-449b-4381011	-0.344	0.888	-0.138	0.449	-0.717	0.42	
	hsa-miR-659-4380924	0.733	0.312	0.338	0.510	-0.705	0.86	
	hsa-miR-23a-4373074	-0.563	0.351	-0.361	0.441	-0.700	0.60	
	hsa-miR-372-4373029	-0.064	0.960	-0.135	1.055	-0.699	0.90	
	hsa-miR-515-3p-4373241	0.827	0.672	1.119	0.563	-0.664	0.88	
	hsa-miR-660-4380925	-0.110	0.929	-0.156	0.974	-0.657	0.86	
	hsa-miR-99a-4373008	0.125	1.031	-0.010	0.822	-0.635	0.93	
	hsa-miR-629-4380969	-1.005	0.610	-0.526	0.917	-0.633	0.75	

	hsa-miR-335-4373045	-0.232	1.591	-0.209	1.440	-0.623	1.18
	hsa-miR-142-5p-4373135	-0.101	0.496	-0.095	0.618	-0.601	0.69
Reduced by	hsa-let-7c-4373167	-0.627	1.533	-0.141	1.231	-0.567	0.86
nore than I.3-fold	hsa-miR-365-4373194	0.255	0.426	-0.464	0.331	-0.528	0.39
1.3-1010	hsa-miR-20b-4373263	-0.252	1.212	-0.563	1.529	-0.525	0.82
	hsa-miR-324-3p-4373053	-0.265	0.663	0.416	0.618	-0.525	0.59
	hsa-miR-518d-4373248	0.314	0.358	-1.063	1.101	-0.503	0.56
	hsa-miR-425-5p-4380926	-0.154	0.518	0.140	0.580	-0.498	0.53
	hsa-miR-30b-4373290	-0.224	0.657	0.020	0.736	-0.486	0.59
	hsa-miR-425-4373202	-0.134	0.313	-0.171	0.782	-0.485	0.52
	hsa-miR-17-5p-4373119	-0.247	0.752	0.288	0.853	-0.476	0.66
	hsa-miR-650-4381006	-1.213	0.452	-0.541	0.964	-0.475	0.57
	hsa-miR-140-4373138	-0.217	0.506	-0.036	0.628	-0.461	0.62
	hsa-miR-15b-4373122	-0.103	0.197	0.522	0.505	-0.453	0.30
	hsa-miR-585-4381027	-0.146	0.280	-0.190	0.215	-0.449	0.19
	hsa-miR-222-4373076	0.134	0.641	-0.275	0.802	-0.444	0.59
	hsa-miR-509-4373234	-1.165	0.765	-0.132	0.795	-0.438	0.89
	hsa-miR-320-4373055	-0.836	0.785	0.028	0.537	-0.436	0.53
	hsa-miR-376a-4373026	-2.178	2.038	-0.139	1.536	-0.413	1.14
	hsa-miR-93-4373012	-0.144	0.223	0.313	0.415	-0.407	0.31
	hsa-miR-125b-4373148	-0.581	0.882	0.135	0.610	-0.404	0.65
	hsa-miR-340-4373041	0.066	0.641	-0.452	0.795	-0.394	0.59
	hsa-miR-484-4381032	-0.146	0.525	0.417	0.579	-0.388	0.5
	hsa-miR-15a-4373123	-0.156	0.526	0.131	0.675	-0.386	0.62
	hsa-let-7b-4373168	-0.095	0.297	0.445	0.592	-0.384	0.30
	hsa-miR-328-4373049	-0.438	0.653	-0.072	0.722	-0.382	0.59
	hsa-miR-191-4373109	-0.212	0.491	0.226	0.501	-0.382	0.56
Modified by ess than	hsa-miR-490-4373215	0.192	0.299	-0.164	0.324	-0.372	0.33
.3-fold	hsa-miR-345-4373039	-0.047	0.236	0.271	0.213	-0.364	0.24
	hsa-miR-510-4373235	0.478	0.448	-0.303	0.558	-0.364	1.00
	hsa-miR-155-4373124	-0.293	0.810	-0.610	0.804	-0.351	0.55
	hsa-miR-195-4373105	-0.162	0.511	-0.016	0.870	-0.344	0.47
	hsa-miR-27a-4373287	-0.126	0.485	-0.016	0.645	-0.327	0.49
	hsa-miR-103-4373158	-0.363	0.540	-0.020	0.613	-0.306	0.41
	hsa-miR-199a-4378068	-0.474	1.150	-0.772	1.252	-0.305	0.90
	hsa-miR-16-4373121	-0.250	0.570	0.346	0.823	-0.288	0.55
	hsa-miR-21-4373090	-0.584	0.913	-0.931	0.892	-0.267	0.80
	hsa-miR-194-4373106	-0.501	0.520	-0.848	1.146	-0.234	0.43
	hsa-miR-197-4373102	-0.221	0.465	0.140	0.456	-0.232	0.57
	hsa-miR-196a-4373104	0.244	0.836	-0.488	1.136	-0.230	0.82
	hsa-miR-30a-5p-4373061	-0.246	0.526	0.255	0.575	-0.229	0.43
	hsa-miR-451-4373209	-0.746	1.683	0.902	1.832	-0.226	1.34
	hsa-miR-331-4373046	-0.133	0.568	0.473	0.581	-0.225	0.46
	hsa-miR-126-4373269	-1.340	2.244	-0.080	1.752	-0.225	1.51
	134-1111 120-4070203	1.040	2.244	0.000	1.1 52	0.220	1.0

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	hsa-miR-520e-4373255	-0.049	0.606	0.184	0.594	-0.205	0.478
	hsa-miR-302a-4378070	-0.714	0.787	0.026	0.799	-0.203	0.478
	hsa-miR-324-5p-4373052	-0.097	0.634	0.175	0.604	-0.188	0.602
	hsa-miR-186-4373112	-0.031	0.844	0.193	0.969	-0.186	0.785
	hsa-miR-196b-4373103	-0.026	0.998	0.293	0.957	-0.166	0.942
	hsa-miR-517c-4373264	1.309	1.587	0.023	1.317	-0.161	1.438
	hsa-miR-30c-4373060	-0.304	0.502	0.297	0.584	-0.151	0.486
	hsa-miR-362-4378092	-0.718	0.686	-0.465	0.882	-0.131	0.619
	hsa-miR-24-4373072	-0.256	0.636	-0.103	0.724	-0.114	0.608
	hsa-let-7a-4373169	-0.230	0.432	0.115	0.489	-0.093	0.394
	hsa-miR-26b-4373069	-0.232	0.744	0.044	0.769	-0.066	0.671
	hsa-miR-383-4373018	0.656	1.216	0.984	1.284	-0.060	1.283
	hsa-miR-423-4373015	0.102	0.448	0.382	0.422	-0.053	0.452
	hsa-miR-92-4373013	0.002	0.440	0.853	0.698	-0.033	0.369
	hsa-miR-330-4373047	0.814	0.897	0.537	0.876	-0.040	1.015
	hsa-miR-565-4380942	0.185	0.515	0.761	0.514	0.008	0.784
	hsa-miR-181d-4373180	0.622	0.684	-0.635	1.011	0.035	0.704
	hsa-miR-338-4373043	-0.349	0.708	-2.215	0.898	0.062	0.646
	hsa-miR-100-4373160	0.829	1.143	0.578	1.137	0.065	1.092
	hsa-miR-210-4373089	-0.198	1.082	0.315	1.335	0.091	1.087
	hsa-let-7f-4373164	-0.818	1.139	-0.826	0.870	0.117	0.581
	hsa-miR-501-4373226	-0.736	0.815	-0.192	1.115	0.117	0.807
	hsa-miR-192-4373108	0.330	1.035	0.508	1.090	0.120	1.059
	hsa-let-7g-4373163	-0.005	0.661	0.109	0.673	0.125	0.557
	hsa-miR-130a-4373145	-0.617	1.312	0.307	0.984	0.133	0.892
	hsa-miR-126-4378064	-0.586	1.851	0.061	1.673	0.138	1.442
	hsa-miR-409-5p-4373197	-0.333	1.646	0.584	1.452	0.167	1.435
	hsa-miR-28-4373067	-0.375	1.040	-0.062	1.015	0.223	0.794
	hsa-miR-152-4373126	-0.839	1.496	0.490	1.369	0.233	1.183
	hsa-miR-181b-4373116	0.227	0.311	0.851	0.567	0.243	0.296
	hsa-miR-29c-4373289	0.063	0.898	-0.180	0.886	0.255	0.664
	hsa-miR-26a-4373070	-0.178	0.774	0.185	0.740	0.256	0.652
	hsa-miR-361-4373035	-0.473	0.835	-0.583	0.758	0.260	0.638
	hsa-miR-630-4380970	-0.011	0.692	-0.041	0.994	0.277	0.624
	hsa-miR-148b-4373129	-0.139	0.979	0.004	0.973	0.289	0.824
Increased by	hsa-let-7d-4373166	0.431	0.579	0.891	0.821	0.394	0.575
more than	hsa-miR-532-4380928	0.461	0.356	0.688	0.701	0.404	0.337
1.3-fold	hsa-miR-596-4380959	0.678	0.273	0.774	0.531	0.406	0.284
	hsa-miR-146b-4373178	0.027	0.990	-0.230	0.980	0.421	0.741
	hsa-miR-296-4373066	-0.165	1.147	0.981	1.041	0.439	0.967
	hsa-miR-99b-4373007	0.104	0.779	0.016	0.972	0.464	0.878
	hsa-miR-200c-4373096	0.240	0.846	0.574	0.917	0.493	0.729
	hsa-miR-642-4380995	-0.821	0.963	-2.074	1.502	0.494	0.686
	hsa-miR-29a-4373065	0.022	0.737	0.023	0.682	0.560	0.642
	hsa-miR-515-5p-4373242	-0.232	1.023	0.666	0.999	0.572	1.115

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	hsa-miR-125a-4373149	-0.001	0.606	0.480	0.528	0.575	0.561
Increased by	hsa-miR-146a-4373132	-0.393	1.259	-0.249	1.337	0.657	0.987
more than 1.5-fold	hsa-miR-339-4373042	-0.060	0.780	0.163	0.850	0.685	0.603
	hsa-miR-342-4373040	0.037	0.862	0.138	0.874	0.685	0.744
	hsa-miR-151-4373179	-0.835	1.796	-0.079	1.888	0.768	1.476
	hsa-miR-10a-4373153	0.825	1.329	0.988	1.346	0.791	1.374
	hsa-miR-485-3p-4378095	1.877	1.210	0.032	1.673	0.885	1.227
	hsa-miR-132-4373143	0.220	0.914	1.458	0.909	1.048	0.923
	hsa-miR-215-4373084	2.013	1.715	1.277	1.502	2.568	1.165

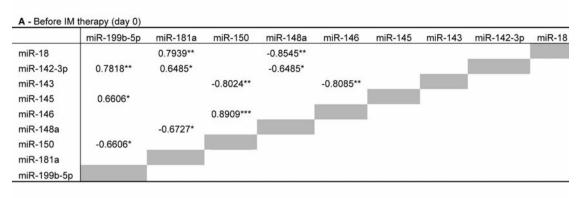
SD indicates standard deviation. Fold change (log₂) was calculated from the averaged Δ Ct of the 4 samples for each time point, compared to day 0.

Online Supplementary Table S3. miRNA median fold change from qRT-PCR analysis. Expression fold change in IM-treated patients between day 14 and day 0 (n=11). P values were calculated using 2-tailed Wilcoxon's test on paired ΔCt values.

miRNA	Fold change	Range	Р	
miR-18	0.616	[0.281 - 3.580]	0.0558	
miR-27	0.841	[0.665 - 2.789]	0.2291	
miR-142-3p	0.321	[0.134 - 1.444]	0.0137	
miR-143	0.344	[0.048 - 3.918]	0.0674	
miR-145	0.297	[0.070 - 1.705]	0.0186	
miR-146	3.249	[0.150 - 22.94]	0.0322	
miR-148a	0.521	[0.295 - 1.395]	0.0537	
miR-150	3.458	[0.247 - 79.34]	0.0137	
miR-155 ¹	0.920	[0.611 - 2.621]	0.8125	
miR-181a	1.395	[0.595 - 4.857]	0.0674	
miR-199b-5p	0.275	[0.071 - 1.283]	0.0068	
miR-222	0.901	[0.387 - 2.694]	0.7646	
miR-223	0.702	[0.253 - 2.549]	0.1748	

Expression fold change between day 0 and day 14. *P*-values were calculated using 2-tailed Wilcoxon's test on paired ACt values. ¹This miRNA was tested using the corresponding ABI TaqMan assay on 7 samples only.

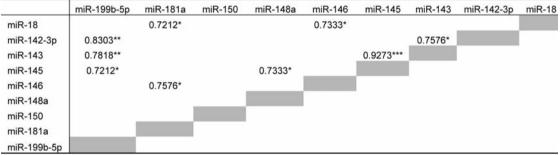
Online Supplementary Table S4. miRNA expression correlation analysis in CML samples. (A and B) Spearman's correlation analysis of miRNA expression levels at (A) day 0 and (B) day 14. (C) Spearman's correlation analysis of miRNA expression fold change between day 0 and day 14 of IM treatment.



B - After 14 days IM therapy

	miR-199b-5p	miR-181a	miR-150	miR-148a	miR-146	miR-145	miR-143	miR-142-3p	miR-18
miR-18	0.6848*							0.8909***	5
miR-142-3p	0.8667**		-0.6727*			0.6970*			
miR-143						0.9030***			
miR-145									
miR-146			0.7842**						
miR-148a		0.8303**							
miR-150	-0.7576*								
miR-181a									
miR-199b-5p									

C - Correlation analysis of miRNA expression fold change in CML samples



Correlation coefficients *r* from Spearman's correlation analysis using (A) day 0 Δ Ct values, (B) day 14 Δ Ct values, and (C) miRNA expression fold changes from day 0 to day 14. **P*<0.05; ***P*<0.01; ****P*<0.001; empty: not significant.

Online Supplementary Table S5. Absence of correlation between miRNA expression fold changes and blood cell composition changes. (A) Patients' blood cell composition, showing the percentages of lymphocytes and neutrophils at day 0 and day 14 of IM treatment. (B) Data represent Spearman's correlation coefficient *r* between miRNA fold changes and the cell composition ratio shown in (A) between day 0 and day 14.

A - Patients' blood cell composition at day 0 and day 14.

Patient	blood c	ell composition at	day 0	blood ce	blood cell composition at day 14				
	neutrophils %	lymphocytes %	neutro/ lympho ¹	neutrophils %	lymphocytes %	neutro/ lympho	composition ratio ²		
P07	69.0	7.0	9.86	80.0	12.0	6.67	0.68		
P11	69.0	17.0	4.06	50.7	33.0	1.54	0.38		
P12	70.0	6.0	11.67	78.0	19.0	4.11	0.35		
P14	41.0	4.0	10.25	82.0	9.2	8.91	0.87		
P20	63.0	3.0	21.00	63.0	1.0	63.00	3.00		
P24	56.0	17.0	3.29	71.0	16.8	4.23	1.28		
P26	68.0	6.0	11.33	73.5	16.3	4.51	0.40		
P30	71.0	16.0	4.44	74.0	14.1	5.25	1.18		
P43	68.0	9.0	7.56	77.6	13.3	5.83	0.77		

Data for patient P17 at day 0 were not available. ¹Neutro/lympho represents the ratio of the percentages of neutrophils and lymphocytes, indicative of the relative proportion of each cell population. ²Ratio of neutro/lympho value at day 14 vs, day 0.

B - Spearman's correlation analysis

	miR-18	miR-142-3p	miR-143	miR-145	miR-146	miR-148a	miR-150	miR-181a	miR-199b-5p
r	-0.317	-0.300	0.167	0.200	0.033	0.050	0.300	-0.150	-0.200
P value	0.410	0.437	0.678	0.613	0.948	0.912	0.437	0.708	0.613

Data represent Spearman correlation coefficient r between miRNA fold changes and the cell composition ratio shown in A between day 0 and day 14

Online Supplementary Table S6. Target gene predictions using various miRNA combinations. This table contains the full list of conserved target genes from TargetScan v5.0 predicted to be targeted by the following miRNA combinations: (A) miR-142-3p AND miR-199b-5p but NOT miR-146 NOT miR-150 (B) miR-142-3p OR miR-199b-5p but NOT miR-146 NOT miR-150 (C) miR-146 AND miR-150 but NOT miR-142-3p NOT miR-199b-5p (D) miR-146 OR miR-150 but NOT miR-142-3p NOT miR-199b-5p. For comparison, the predictions from combinations (A) and (C), presented in Table 3 in the main text, were reproduced in this table.

LOVRAX ADADACLI C'LC2 KDERZ PRAMP1 STAM C'L20RB ADDM 19 MMP16 ANRG ABCC1 DUSXME KIAA0753 PRPLAB STM4 NFASC ADDM 19 MMP16 ARNGER12 ABCC5 DDR1 KIAA0753 PORL STM4 NFASC ADDR 20 MTCB C180725 ACRDA DDXX KIAA0753 PORL STN12 ALAD ADR 20 MYRB ACRDA ACRDA DDXX KIAA0753 PORC STN12 ALAD APRAD MYRD	A. miR-142-3p AND miR-199b- 5p but NOT miR- 146 NOT miR- 150			2-3p OR miR-199 iiR-146 NOT miR			C. miR-146 AND miR-150 but NOT miR-142- 3p NOT miR- 199b-5p	D. miR-146 OR miR-150 but NOT miR-142-3p NOT miR- 199b-5p		
NHIGET2ABCC1DCUNTONKNAM23PNPLAGSTM4NFASCAPACP3MYAM0CCHERGSABCC5DDR1KKIAA4303POGKSTX12AACP3ANAD1MATNIACVF2ADDX3YKIAA4303POGKSTX12AAKP3ANKF02ATF81MYTM0ACVF2ADDX3YKIAA2018POGKSTX12AAKF02ATF81ANKF02MYTG1MYTM4ACVF2ADDX3YKIAA2018POGKSTV1AAKF02ATF81ANKF02MYTG1MYTGAADATT33DIRC2KLF12PFR11TACK1AFP1.AFP1.MYTG2REM3ADCG3DLC1KLF13PPFR12TIELXATF92.NFASCADDSK2DLC1KLH14PPP1R13TIELXBASF11NOX1AFF1DTMCL11LARGEPPP1R3TIELXBASF11NOX1AFF2DTMCL12LARGEPPP1R3TIELXBASF11NOX1AFT74DTMCL12LARGEPP1R15TIELXBASF11NOX1AFT74DTMCL12LARGEPP1R15TIELXBASF11NOX1AFT74DTMCL21LARGEPP1R15TIELXBASF11NOX1AFT74DTMCL21LARGEPP1R15TIELXBASF11NOX1AFT74LARGEPP1R15TIERSBASF11NOX1AFT74LARGEPP1R15TIERSBASF11NOX1AFT74LARGEPP1R15TIERSBASF11NOX1AFT74<	ACVR2A	AADACL1	CYLC2	KDELR2	PMAIP1	STAM	C12orf36	ACBD3	MMP14	
C18nc73ABCSDDR1KIAABS3PODXLSTIN3ALADMA®MAPAN11ACVB2ADDXXXKIAABS3POLSSULF1ALADMA®MAPAN1ACVB2ADDX3KIAABS3POLSSULF1APABC2MTG1MY06ADMT33DEPDC1BKLPMARGC1ATAGAPAPAB2MTG5MY05AADMT33DEPDC1BKLPMARGC1ATAGAPAPA12MTG1RM7AADMT33DEPC1BKLF12PFF1A1TACK1APA12MTG1RM7BADC33DK72,98702110KLF13PFF1B1TAC11APA12MTG2RM7BADC3DK72,98702110LARC1PFF1R1TED12BATG12MTG2RM7BADC3DK71KRM4PFF1R3TED18BAG1NNA1AFF1DYACL12LARC1PFF1R3TELX2BC/11NNA1AFF2DYACL12LARC4PF92ATES2BD/11NNA1AFT9DYACL12LARC4PF92ATES2BD/11NNA2ALS2EDM3LEPRL1PFR18TELX81BC11NNA5AKC13EF23LARC4PFR2TFR6BSNPFR2AKC3EF24LIAR2PFR40TTM16BTRCPFR2AKC14EF24LIAR2PFR2TES2BD/11NNA5AKC51EF26LIAR2PFR2TES4BC11NNA5AKC7EF23LAR2PFR2TES2BD/11NNA5 <td>ANK3</td> <td>ABCA1</td> <td>D4S234E</td> <td>KIAA0355</td> <td>PMP22</td> <td>STAU1</td> <td>MMP16</td> <td>ADAM19</td> <td>MMP16</td>	ANK3	ABCA1	D4S234E	KIAA0355	PMP22	STAU1	MMP16	ADAM19	MMP16	
CCM ACBDS DDX3Y KIAA 6353 POCK STX12 AAK6D2 AMRED2 MYH6 ACVR2A DDX3Y KIAA2018 PCIS SUF1 AAK6D22 MYGB1 MYGA ACVR2A DDX3 KIC PRAGCIA TAGC APPL1 MYTB1 MYGA ADAMT33 DIRC2 KLF 12 PFFH1 TACK1 APPL1 MYTG1 RBM3 ADCY3 DIC2 KLF 12 PFFH1 TACK1 APPL1 MYTG2 RDT3 DIC3 CLC1 KLF 13 PFFH1 TACK1 APPL3 MTG2 RDT3 ADD3 DLC1 KLH 14 PPFH12A TECLD2 ATG2 NFASC ZNF318 ADRK2 DFACL1 LARCE PPF12A TELX BAST1 NOVA1 AFF1 DFACL1 LARCE PPF12A TELX BAST1 NOVA1 AFF2 DFACL1 LARCE PF72A TESK1 BA	ARHGEF12	ABCC1	DCUN1D4	KIAA0753	PNPLA6	STK4	NFASC	ADIPOR2	MTCH2	
NAPRI ACVR28 DDX6 KIT POLS SULP1 APRRD82 MT01 NY06A ADMTS3 DEPC-1B KL PPARG1A TAGN P APRI2 APRI2 MY06 NY06A ADMTS3 DEPC-1B KLF12 PPFR1 TAGN P APRI2 NRC12 NRC2 RMT3 ADD3 DEC1 KLH12 PPFR1 TAGN P ATG12 NFA2 RNT3 ADD3 DLC1 KLH12 PPFR1 TAGN P ATG12 NFA2 RNT3 ADD3 DLC1 KRNA PPP1R12 TBL1X BAG1 NFA2 AFT DTNC1L2 LARC1 PPP1R3 TBL1X BAG1 NFA3 AFT2 DTNC1L2 LARR PPP2R1 TG2 BIVM NSUM ALS2 EDEM3 LEPR2L1 ILR2 BIVM NSUM SUM ALS2 EDEM3 LG2 PPP1R3 TBL1X BIVM NSUM ALS2 EDEM3 LG2	C18orf25	ABCC5	DDR1	KIAA0831	PODXL	STRN3		AKAP9	MYADM	
NAPRI ACVR28 DDX6 KIT POLS SULP1 APRRD82 MT01 NY06A ADMTS3 DEPC-1B KL PPARG1A TAGN P APRI2 APRI2 MY06 NY06A ADMTS3 DEPC-1B KLF12 PPFR1 TAGN P APRI2 NRC12 NRC2 RMT3 ADD3 DEC1 KLH12 PPFR1 TAGN P ATG12 NFA2 RNT3 ADD3 DLC1 KLH12 PPFR1 TAGN P ATG12 NFA2 RNT3 ADD3 DLC1 KRNA PPP1R12 TBL1X BAG1 NFA2 AFT DTNC1L2 LARC1 PPP1R3 TBL1X BAG1 NFA3 AFT2 DTNC1L2 LARR PPP2R1 TG2 BIVM NSUM ALS2 EDEM3 LEPR2L1 ILR2 BIVM NSUM SUM ALS2 EDEM3 LG2 PPP1R3 TBL1X BIVM NSUM ALS2 EDEM3 LG2	CCNJ	ACBD5	DDX3X	KIAA1553	POGK	STX12		ALAD	MYB	
NYYGA ACWR2B DDX6 KIT PPARGCIA TAGAP PAPCA NYDGA NYDGA ADMTS3 DEPDC1B KL PPARGCIA TAGAP APBLIA NYT1 PBM2T ADMTS3 DEFDC1B KLF12 PPFR1 TAGAP ATBA2 NF2 RNT36 ADC13 DEC1 KLH2 PPFR1 TBC1D2B ATBA2 NF3C ZNF618 ADR8K2 DMTF1 KRNA4 PPF1R1 TBC1D2B AABA1 NF0C AFF1 DFAM KRNA1 PPF1R2 TBC1Z BAC11 NF0C AFF1 DFAM KRN11 PPF1R2 TBC1X BASP1 NCVA1 AFF1 DFAM KRN11 TBC2 BCCN11 NRA5 BCCN11 NRA5 ACT71 EZ2 DFAM PPR12 TBC1 BCC BCCN11 NRA5 ACT71 EZ2 ED4M LERC PRCM1 TMM19 BCC2 ADMT21 LMC04 PRP11 TME17 <								The second second second		
NYCKAADAMTSL3DEPC18KLF2PPARATTAGAPPPI1ATT11PRM47ADAMTSL3DIRC2KLF12PPFR11TARDBPATD32NF22RNF38ADD3DLC1KLHL6PPP1R10TBC1D8ATD32NFASCADR8K2DLC1KLHL6PPP1R17TBC1D8BAG1NFASCAFF1DRAMKPN41PPP1R2TBL1XBAG1NFASCAFF2DVNC1L12LAMC1PPP1R3TBL1XBAG1NFASCAFF1DVNC1L11LAMC1PPP1R3TBL2BN/MNSUN4AKT91E2F3LARP4PPP2R1TGCBSNNAPASCAK22EDEM3LEPREL1PPR31TGCBSNPAPC5AMC11EFFLUN2PPP2R31TGAPC10:07:6PR22ANKC13EFF21LUN7PPR40ATMM10BTGCPR22ANKC11EFF3LUN2PPR40ATMM10BTGCPR22ANKC13EFF31LUN2PPR40ATMM10BTGCPR22ANKC13EFF31LUN2PPR40ATMM10BTGCPR22ANKC13EFF31LUN2PPR40ATMM10BTGCPR22ANKC13EFF31LUN2PPR40ATMM10BTGCPR22ANKC14EFF31LUN2PPR40ATMM10BTGCPR32ANKC13EFF31LUN2PR44TM415C10:076PR34ANKC14EFF31LUN2PR44TM424									MYO6	
IBBM7ADAMTS1.3DIRC2KLF13PFIRPITACN1ARDB7PHE9ADC790DK72p670210KLF13PFIRPITBC1D28AT012NF3C2NF18ADC8DLGTKLH16PPIR17TBC1D28AT08/2NF3C2NF18ADR8/CDMTF1KFNA1PPP1R1TBC1D28AT08/2NF3CAFF1DTAMKFNA1PPP1R2TBL1XBASP1NCVA1AFF2DTNC1L12LARCEPPP3R4TBL1XBCCR11NFASAFF1DTNC2L11LARCEPPP3R4TBC12BCCR11NRA5AKA71EC61LC0RPPP3R4TBC2BNC1NUM6ALSC2ED6M5LEFRE1PRCM1TG2PAPAAMC11EFF2LIM22PRF0M1TMMF0BT02PAPAAMC11EFF2LIM22PRF0M1TMMF0BT02PAPAAMC81AEFP2LIM22PRF0M1TMMF13C50r/d6PC0P4AMC81AEFP4LIM32PTF8TMSF5C10r/d5PFR2AMC81AEPPA1LRP18PVR11TMEM153C50r/d6PK32P1AMC81AEPPA1LRP18PVR11TMEM173C50r/d6PK32P1AMC81AEPA1LRP16PK32ATMEM123C50r/d6PK32P1AMC912ERM1LRP16PK32ATMEM123C50r/d6PK32P1AMC912ERM1LRP16PK32ATMEM123C50r/d6PK32P1AMC912ERM1LRP1										
HHEB ADC9 DK229870210 KL13 PPFIRP1 TARDP ATG12 NF2 RNT3B ADD3 DLC1 KLH4 PPPIR12 TBC1D2B AFG12 NF2 XNF51B ADRBN2 DMTF1 KPNA4 PPP1R12 TBC1D2B BAG1 NF2C XAF2 DYNC1L2 LAKC1 PPP1R12 TBL1XR1 BCL1A NPA34 AFF1 DYNC1L2 LAKC6 PPP1R3 TBL1XR1 BCC11 NFA3 AFF1 DYNC1L2 LARC6 PPP2R3 TEX2 BVM NSUM4 ALS2 DEDM3 LEPRE11 PPP1R1 TF2 BNC1 NUM8 ALS2 DEM3 LEPRE11 PRE14 TMASF1 BTG2 PPP23 ANKR011 EFF5 LIM22 PPP474 TIRAP C12of58 PCD44 ANKR014 EFF4 LIM23 PPP782 TMSF3 C16759 PDIA5 ANKR014 EFF4 LIM23 PUR11 TMEM153 C66r143			DIRC2							
NP38 AD3 DLC1 KUL6 PPP1R2 TGC108 ATFA2 MTA2C ZNF618 AFF1 DRMM KPNA1 PPP1R2 TGL108 BASP1 NOVA1 AFF2 DYNCLIL2 LAUC1 PPP1R3 TBL1X BASP1 NOVA1 AFF2 DYNCLIL2 LAUC1 PPP1R3 TESX2 BCORL1 NRAS AKAP1 E273 LARP4 PPP3R1 TESX2 BNO NUMA NUMA ALS2072 EDM3 LEPRL1 PRLN TGF8R1 BTG2 PAPD5 ANK3 EIF2C1 LIN7C PRR40 TIMM10 BTRC PS2 ANK31 EIF2C1 LIN7C PRR40 TIMM10 C1ord73 PD04 ANK7012 EM41 LM02 PIPR43 TIRAP C1ord73 PD04 ANK7013 EIF2C1 LIN7C PRR50 C1ord71 PH0X2 ANK7014 EPA41 LM02 PIPR43 TIRAP C1ord71 PH0X2 <		a series of the						101203-831212-1		
ZNF618 ADBR2 DMTH KPNA4 PPPIRIZA TBC1D8 BAG1 NFIC AFF1 DRAM KPNB1 PPPIR2 TBL1X BAD1 NPA4 AFF2 DYNC1L2 LANC1 PPPIRA TBL1XH BC114 NPA4 AFTP4 DYNC2L11 LARCE PPP2A TEST2 BVM NSUM4 AFT151 ECF1 LCOR PRDM16 TESZ BNC1 NUB8 ALS2 EDEM3 LEPREL1 PRD4 TGF8 BNC1 BUB2 ANG011 EIF2 LIMC2 PRP40 TIMM10 C120768 PCD4 ANRC012 EPH41 LM03 PURB TMM573 C160729 PD04 ANRC012 EPH41 LM03 PUR1 TMEM13 C160739 PD1A ANRC012 EPH41 LR03 PUR1 TMEM132 C60414 PICA ANRC012 ERG1 LR74 PVR1 TMEM132 C60414 PICA ANRC042								Contraction and		
AFF1 DRAM KPB1 PPP1R2 TBL1XR1 BASP1 NOVA1 AFF2 DYNC1U2 LAMC1 PPP1R2A TBL1XR1 BCL11A NRSA AKTP1 E273 LARGE PPP3CA TESK2 BCO11 NRSA AKAP1 E273 LARP4 PP92A TESK2 BNC1 NUMB ALS2CR2 EDEM3 LEPREL1 PRLR TGC BNC1 NUMB ALS2CR2 EDEM3 LEPREL1 PRC4 TGFBR1 BTG2 PAP5 AMR3 EF2C1 LIN7C PRPG4 TIMM10 BTRC PSC2 ANRG11 EFES5 LLG12 PTPR23 TIRAP C14ord3 PDCD4 ANRG12 EML1 LM02 PRPR43 TIMEM15 Clar71 PH023 ANRG12 EP41L1 LM02 PTPR33 TIMEM15 Clar74 PH024 ANRG12 EML14 LM02 PTM23 TIMEM15 Clar71 PH032 ANRG12 EML1										
AFE2 DYNC1L/2 LANC1 PPHRAA TELIXR1 BCL11A NPAS4 AFTPH DYNC2L1 LARP4 PPP3CA TESC2 BCORL1 NRAS ARAP1 E2F3 LARP4 PPP3R1 TET2 BINC1 NUMB AK151 ECE1 LCOR PPR0M16 TEX2 BINC1 NUMB ALS2 EDEMS LEPRE1 PRA TFG BINC1 NUMB ALS2 EDEMS LEPRE1 PRPA TES2 BNC1 NUMB ALS2 EDEMS LEPRE1 UNC2 PRPA TES2 PAPA ANC11 EHF3 LIG2 PTPR2 TIMSF3 C16rd3 PDC04 ANKRD12 EMA11 LMO3 PUR1 TMEM10 C1rd73 PT042 ANKRD12 EPN1 LRP1 PUR1 TMEM12 C6rd6 PIR2 ANKRD12 EFM1 LRP3 RAB13 TMEM12 C6rd74 PIR2 ANKRD2 ERC1 LRR		0.802.600.0002.0003						11.000		
AFTPHDYNG2U1LARGEPPP2CATEX2BCORL1NRASAKAP1E2F3LARP4PPP3R1TEY2BIVMNSUM4AKT151ECE1LCCRPRDM16TEX2BIVMNSUM4ALS2EDEM3LEPREL1PRLNTFGBIVMNSUM4ALS2CR2EHD4LIFRPROM1TGFBR1BIVMPAPD5AMOTL1EHFLIM02PRP40ATIM10BTGCPS2ANK3EHF2C1LIN02PPR40ATIM10C12:d78PC04ANK111EHF5BLLG12PTPN23TIRAPC14:d78POC4ANK5D42EPB411LM03PUN1TMEM115C16:d71PH024ANK6D42EPB411LM03PUN1TMEM115C16:d71PH028ANK6D42EPB411LRR14PVR1TMEM115C16:d71PH028ANK6D42ERG1LRRC1PNNTMEM115C6:d7134PKR11APH03712ERG1LRRC32RAB1ATMEM208CALUPK101ARH042P12ERGMA23X11RAB21TMEM368CCBC2POM121ARH042P12ETS2MAPRRAB24TMEM368CCBC2POM121ARH042P12ETS1LSYM33RAB21TMEM368CCBC2POM121ARH042P12ETS1MAP3K11RAC1TMK58CD0APFM14ARH042P12EXC5MAP3K118RAB20TMEM58CCBC2POM121ARH042P24FAM107BMAP3K117RA		1.12542834								
AAAP1EF3LARP4PPDR1TE12BUMNSUM4AKT1S1ECE1LCORPRDM16TEX2BNC1NUM8ALS2EDEM3LEPREL1PRLRTFGBNC1NUM8ALS2EDEM4LIFRPRCM1TGFB11BTG2PAPAAMOTL1EHFLUNCPRPF40ATIMM10BTG2PAPAANK3EIF2C1LUNCPRPF40ATIMM10C120768PCD44ANK61EIF52LUA2PTPR2TMSF3C17orf39PDA6ANKR012EPM11LM03PUM1TMEM110C1orf35PFN2ANK51AEPHA7LRP1BPURBTMEM135C5off46PIKR41AP161EPN1LRP4PVR11TMEM123C5off46PIKR41APH0AP12ERGLRRC32RAB1ATMEM135C6off34PIKR11APH0AP12ERGLRRC32RAB2ATMEM358CALUPHP2ARH0AP12ERS1LYSMD3RAB2ATMEM58CC2D18POL03ARH0AP21ETS1LYSMD3RAB2ATMEM58CC2D4POM121ARH0AP21ETS2MAP3K/TP2RAB2ATMEM58CC2C19POM121ARH0AP21ETV6MAP3K/TP2RAB2ATMEM58CC2C19POM121ARH0AP21ETV6MAP3K/TP2RAB2ATMEM58CC2C4POM121ARH0AP21ETV6MAP3K/TP2RAB2ATMEM58CCC204POM121ARH0AP21ETV6MAP3KRAB2A<								and the second second second		
AKT 151ECEILCORPPDM16TEX2BNC1NUMBALS2EDEM3LEPREL1PRLRTGBBSNPAPD5ALS2CR2EH04LIFRPRLRTGBBSNPAPD5AMC11EHFLIMD2PPPF40ATIMM10BTECPAPAANK3EIP201LINC7PRR210THAPC12of38PCB4ANK7D11EFB6LIGL2PTPR23TFAPC14of43PCD4ANK7D13CEPM47LIMA2PTRETMB5F3C16of25PFN2ANK7D42EP841L1LMAN2PTPR2TMEM110C16of25PFN2ANK7D42EP841L1LMAN2PTRETMEM135C56of46PIC3P1ANK7D42EP841L1LMAN2PTRETMEM135C56of46PIC3P1ANK7D42ER61LRRC1PXNTMEM135C56of43PIK3P1AP161EP147LRRC59RAB1ATMEM35C6AUPIK41ARH6AP219ERLIN1LRRC59RAB1ATMEM35CALUPIK11ARH6AP21ETS1LYSM03RAB21TMEM35CAD10PL22ARH6AP21ERLIN1LRRC59RAB1ATMEM35CCD24POM121CARH6AP21ETS1LYSM03RAB21TMEM35CCD24POM121CARH6AP21ETS1LYSM03RAB21TMM55CAD10PIK111ARH6AP21ETS1LYSM03RAB21TMEM35CCD24POM121CARH6AP21FAM56MAP3K71P2 <td< td=""><td></td><td></td><td></td><td></td><td>101010-00100</td><td></td><td></td><td></td><td></td></td<>					101010-00100					
ALS2EDEM3LEPREL1PRLRTGBSNPAPDSALS2CR2EHD4LIFRPROMITIGFBR1BTG2PAPPAAMOTL1EHFLIMC2PPR40ATIM10BTRCPPX2ANK3EIF2C1LINTCPPRG1TIPAPPC12of36PCD44ANKRD11EFFSLIG12PTPRETMSF3C17of39PDC46ANKRD13CEML4LMAN2PTPRETMSF3C17of39PDC46ANKRD4EPH41LM03PUM1TIMEN10C1of25PFN2ANKS1AEPH47LRP18PUR1TIMEN123C5of46PIK3P1APG92ERC1LRRC4PNL1TIMEN23C5of46PIK3P1APGAP12ERGLIRC52R3HDN2TIMEN528CASKPIK2P1ARHGAP12ETS1LVSM03RAB21TIMEM59CASKPM2D2ARHGAP23ETS2MAPRRAB2ATIMEN59CCD18POIL31ARHGEF2EXO28MAP2K11RAB4CTIMEN58CCD24POM121CARHGEF2EXO28MAP2K112RAB40CTIMEN59CCD24PM111ARL1FAM108MAP3K7P3RANB70TOX3CD20APPR11ARL1FAM108MAP3K7P3RANB70TOX3CD20APPR11ARHGEF2FAM16AMAPCK117RAS52TSPANSCD14APS033ARHGEF2FAM108CMAP3K7P3RAB92TSS1NF2CD20APPR51ARHGEF2FAM108MAP3K7P3 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>100000000</td> <td></td>								100000000		
ALS2CR2EHD4LIFRPROM1TGFBR1BTG2PAPAAMUC11EHFLIMD2PRPF40ATIMM10ETRCPBX2ANK3EIF2C1LINC7PRRC10TIFAPC12of38PDC04ANKRD111EIF5BLIGL2PTPN23TIFAPC14of43PDC04ANKRD12ENLALIMD3PUM1TMEM110C1of25PFN2ANKRD42EPB41L1LIMO3PUM1TMEM115C1of71PHO2BANKR1AEPHA7LRP1BPURBTIMEM15C5of466PK3AP1ARH6AP12ERG1LRRC1PXNTMEM135C6of134PKB1ARH6AP12ERGLRRC29RAB21TIMEM58CARD0PL2ARH6AP21ETS1LVSM03RAB21TIMEM58CASKPM202ARH6AP21ETS2MAPRRAB21TIMEM58C6DF12POL03ARH6AP21ETS1LVSM03RAB21TIMEM58CCD20POH121ARH6AP21ETS1MAP3K118RAC1TIMEM58CCD201POL03ARH6EF2EXC3MAP2K4RAB0CTIMEM63CCD202POM121ARH6AP21ETS1MAP3K71P2RAD28TIMEM63CD0A1PPHT11ARH056FAM1081MAP44RAB02TIS1M6CD0A1PPHT11ARH62F2EXT13MAP3K71P2RAD28TIS1M4CHD2PRP31ARH62F6FAM1081MAP44RAB92TPS3M5CD0A1PPHT11ARH56FAM107B <td></td> <td>2010 C 2010 C 2010</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2.4.9.9.9.9.9.9.1 C</td> <td></td>		2010 C 2010 C 2010						2.4.9.9.9.9.9.9.1 C		
AMOTL1EHFLIM2PRP40ATIM10BTRCPBX2ANK3EIF2C1LIN7CPRRC1TIPAPPC140rd3PCC40ANKRD13CEML4LIAN2PTPRETM95F3C170r39PDIA6ANKRD13CEPM11LIAN2PTPRETM95F3C170r39PDIA6ANKRD13CEPM14TLRP1BPURBTMEM115C10r37PH022BANKS1AEPM17LRP1BPURBTMEM135C50r43PK3AP1APIG1ERN1LRPC1PXNTMEM135C50r43PK3AP1ARHGAP12ERGLRRC32R3H0M2TMEM135CACRD10PLP2ARHGAP13ERLIN1LRPC3RAB21TMEM59BCARD10PLP2ARHGAP21ETS1LYSMD3RAB21TMEM59BCCBP2POM121ARHGF22EXOSMAP2K1RAB2ATMEM59BCCBP2POM121ARHGF22EXOSMAP2K1RAD23TMRC18CDD41PPP111ARL15FAM100CMAP3K71P2RAD23TMRC18CDCA1PPP111ARL15FAM100C1MAP4K3RAMP3TSTCDC014PPM14ARL16FAM10A1MARCK3RBP4T59ANSCMTM6PRT2ARH21FAM10A1MARK3RBP4T59ANSCMTM6PRT2ARL16FAM10A1MARK4RBM24TTBK1CDFRPM03ARH21FAM10AMARK4RBM24TTBK1CGFRPTP4A1ARL16FAM10AMARK4										
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ARHGAP29ETS2M6PRRAB2ATMEM59CC2D1BPOLD3ARHGEF12ETV6MAB21L1RAB3ATMEM63BCCBP2POM121ARHGEF2EXC3MAP3K1RAB40CTMEM66CCDC4POM121CARID5FADS6MAP3K71P2RAD23BTNRC18CDAN1PPP1R11ARL1FAM100BMAP3K71P3RANBP10TOX3CDC42BPAPRICKLE2ARL15FAM107BMAP4RANB73TRPM4CDONPRKAR1AARL16F6FAM107C1MAP4K1RANB73TRPM4CMTM6PRR12ARR11FAM114A1MAPCH1RARGTSEN34CMTM6PRR12ARR82FAM116AMARCH7RAS5F2TSPAN5CNTFRPSCD3ASRGL1FAM130A1MARCK3RBB24TTSCD4A44PSMD3ASRGL1FAM178AMARK3RBM23TSTCD4A44PSMD3ATG76L1FBXO21MCFD2RBM71TWF1DGAGPTPR81ATG616.1FBXO33MEF2DRBM74TMF1DGAGPTPR8ATG766.1FBXO3MEF2DRBM74TWF1DGAGPTPR8ATG717FBXO3MEF2DRBM74TW11DGAGPR72ATS77FBXO3MEF2DRBM74TW11DGAGPTPR8ATS77FBXO3MEF2DRBM74TW11DGAGPTPR8ATG717FBXO3MEF2DRBM74TW11DGAGPTPR8ATS77FBXO3MGAT3REE										
ARHGEF12ETV6MAB21L1RAB3ATMEM63BCCBP2POM121ARHGEF2EXOC8MAP2K4RAB40CTMEM66CCDC4POM121ARID2EXTL3MAP3K11RAC1TNKSCD80PPM1MARID5FAD56MAP3K7IP2RAD23BTNRC18CDAN1PPP1R11ARL1FAM100BMAP3K7IP3RANBP10TOX3CDC42BPAPRICKLE2ARL15FAM107BMAP4RANB72TP53INP2CDONPRKAR1AARL6IP6FAM108C1MAP4K3RANB73TRPM4CMT06PRT2ARR82FAM116AMARCH7RAS522TSPAN5CNTFRPSCD3ASH1LFAM13A1MARCK8RBB74TTSN4COL4A4PSMD3ASRGL1FAM178AMARK3RBM23TSTCD PTFRPTGFRNATF7IPFAM4BMARK4RBM24TTBK1CSF1RPTPA1ATG4DFBXO33MEF2DRBM77TVF1DGAGPTR3ATG4DFBXO33MGT33REEP2UBAP1DLGAP2RABGP1ATXN7FBXO9MGAT3REEP2UBAP1DNAJB7RASGEF1AATXN711FKBP1AMGT4ARREUBE201DNAL1RC3H1ATXN71FBXO3MICA13RGMAUNC84ADYRK1ARFTN2BAATFLT3MIR3RGMAUNC84ADYRK1ARFTN2BAATFLT3MIR43RGMAUS4ADSELRFS2BAATFLT3MIR4RGMB<		1010-0010-0014-002-0000-0								
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ARID2EXTL3MAP3K11RAC1TNKSCD80PPM1MARID5BFADS6MAP3K7IP3RAD23BTNRC18CDAN1PP1R11ARL1FAM100BMAP3K7IP3RANBP10TOX3CDC42BPAPRICKLE2ARL15FAM107BCMAP4XRANBP3TRPM4CDD2PRF31ARL6F6FAM108C1MAP4X3RANBP3TRPM4CHD2PRP51ARNTLFAM114A1MARCH1RARGTSEN34CMTM6PRICTARR52FAM116AMARCK3RBB24TSPAN5CNTFRPSC03ASRGL1FAM130A1MARK3RBM23TSTCPDPTGFRNATF7IPFAM44BMARK4RBM24TTB11CSF1RPTPA1ATG16L1FBXO21MCFD2RBM27TTC9DGKGPTRBATG4DFBXO33MEF2DRBM47TNF1DLGAP1PVRL2ATT913A2FBXO45MFHAS1REFE2UBAP1DNAJB7RASGEF1AATXN7L1FKBP1AMGAT4AREREUBE2G1DNAL1RC3H1ATXN7L1FL20160MGAT3RGL2UBL3DSELREFS2BAATFL120309MICAL3RGMAUNRALEBF3RIMBP2BACH1FMTSMIK1RGMBUNRLEBF3RIMS2BACH1FMTBMN1RHEBUSP31EDAEDARIMS2BACH2FNDC3AMKL2RGS10USP6NLEBF4RNASELBACH1FMTBMN1RHEB <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>and the second second second</td> <td></td>								and the second second second		
ARID5BFADS6MAP3K7IP2RAD23BTNRC18CDAN1PPP1R11ARL1FAM100BMAP3K7IP3RANBP10TOX3CDC42BPAPRICKLE2ARL15FAM107BMAP4RANBP2TP53INP2CDONPRKAR1AARL6IP6FAM108C11MAP4K3RANBP3TSPM4CHD2PRPS1ARNTLFAM114A1MARCH7RAS52TSPAN5CNTFRPSC03ASH1FAM130A1MARCKSRBP4TSPAN6COL4A4PSMD3ASRGL1FAM178AMARK3RBM24TTFK1CSF1RPTFRATF1PFAM48BMARK4RBM24TTFK1CSF1RPTPRBATG6L1FBX033MEF2DRBM27TTC9DGKGPTPRBATG4DFBX033MEF2DRBM47TWF1DLGAP1PVRL2ATF13A2FBX045MFHAS1RBPMSTNL1DLGAP2RABGP1ATXN7FBX09MGAT3REE2UBAP1DNAJB7RASGEF1AATXN71FLB20309MICAL3RGL2UBL3DSELREPS2BAATFLRT3MIER3RGMBUNKLEBF3RIMS2BACH1FNNC3MKL2RGS10USP31EDARIMS2BAC14FOX04MORF4L2RICT8USP37EDNRBRN465BCLAF1FOX04MORF4L2RICT8USP61EIF4BRN165BCLAF1FOX04MORF4L2RICT8USP61EIF4EROB01BAC14FOX04MORF4L2RI										
ARL1FAM100BMAP3K7IP3RANBP10TOX3CDC42BPAPRICKLE2ARL15FAM107BMAP4RANBP2TP53INP2CDONPRKAR1AARL61P6FAM108C1MAP4K3RANBP3TRPM4CHD2PRP51ARNTLFAM114A1MARCH1RARGTSEN34CMTM6PRT2ARR82FAM116AMARCKSRBP4TSPAN6CD14A4PSMD3ASRGL1FAM178AMARK3RBM23TSTCD0PTGFRNATF7IPFAM48MARK4RBM24TTBK1CSF1RPTP4A1ATG16L1FBX021MCFD2RBM27TC9DGKGPTR8ATG4DFBX033MEF2DRBM27TWF1DLGAP1PVRL2ATF13A2FBX045MFHAS1RPMSTXNL1DLGAP2RAGAP1ATXN7FBX09MGAT3REEP2UBAP1DNAJB7RASGE1AATXN71FLA309MGAT3REEP2UBAP1DNAJB7RASGE1AATXN71FLA309MICAL3RGMAUNC24ADNRL1RC3H1BACH1FINL2MINK1RGMBUNKLEBF3RIMBP2BACH2FNDC3AMKL2RGS10USP31EDAEDARIMS2BACH1FNTBMN1RHEBUSP37EDNRBRNASELBAC11FNTBMN1RHEBUSP37EDNRBRNASELBAC14FOXO1MOBKL3RHOBTB3USP6NLEIF4EROBO1BAC14FOXO1MOBKL3RHOBTB		1. A 4. 2017 A 11 11 11 11 11 11 11 11 11 11 11 11 1						110 000 00 00 00 00 00 00 00 00 00 00 00		
ARL15FAM107BMAP4RANBP2TP531NP2CDONPRKAR1AARL61P6FAM108C1MAP4K3RANBP3TRPM4CHD2PRPS1ARNTLFAM114A1MARCH1RARGTSEN34CMTM6PRRT2ARRB2FAM116AMARCH7RASSF2TSPAN5CNTFRPSC03ASH1LFAM130A1MARCKSRBBP4TSPAN6CQL4A4PSM03ASRGL1FAM178AMARK3RBM23TSTCPDPTGFRNATF7IPFAM44BMARK4RBM24TTBK1CSF1RPTP4A1ATG16L1FBX021MCFD2RBM47TWF1DLGAP1PVR2ATG4DFBX033MEF2DRBM47TWF1DLGAP2RA6GAP1ATYN7FBX09MGAT3REEP2UBAP1DNAL1RC3H1ATXN7FBX09MGAT4AREREUBE2G1DNAL1RC3H1ATX12FLJ20309MICAL3RGL2UBL3DSELREPS2BAATFLRT3MIR3RGMAUNC84AUNR4FAEBF3RIMBP2BACH1FNNL2MINK1RGMBUNKLEBF3RIMBP2BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAT1FOX01MOBKL3RHOBT3USP46EIF4BRNA5ELBAZ1AFOX01MOBKL3RHOBT3USP6NLEIF4EROB01BAC2FSD1MOP5RIMS1UTRNEIF4Q2RUX1T1BNC2FSTL4MPP5RIMS1U								Distant Character		
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ARNTLFAM114A1MARCH1RARGTSEN34CMTM6PRRT2ARRB2FAM116AMARCH7RASSF2TSPAN5CNTFRPSCD3ASH1LFAM130A1MARCKSRBB44TSPAN6COL4A4PSMD3ASRGL1FAM178AMARK3RBM23TSTCPDPTGFRNATF7IPFAM44BMARK4RBM24TTBK1CSF1RPTPA11ATG16L1FBX031MCFD2RBM27TTC9DGKGPTPR8ATG4DFBX033MEF2DRBM47TWF1DLGAP1PVRL2ATP13A2FBX045MHAS1RPPMSTXN1DIAJB7RASGEF1AATXN7FBX09MGAT3REEP2UBAP1DNAL1RC3H1ATXN7FBX09MGAT4AREREUBE2G1DNAL1RC3H1ATXN7L1FKBP1AMGAT4ARGL2UBL3DSELREPS2BAATFLRT3MIER3RGMAUNC84ADYRK1ARFTN2BACH1FNNL2MIN1RGMBUNKLEBF3RIMS2BACH2FNDC3AMKL2RGS10USP37EDARRIMS2BAT14FOXO4MORF4L2RICTORUSP6NLEIFABRNASELBAC1AFOXO4MORF4L2RICTORUSP6NLEIFABRNASELBAC1AFOXO4MORF4L2RICTORUSP6NLEIFAEROB01BACAPFSD1MOP5RIMS1UTRNEIFAG2RUNX1T1BNC2FSD1MPF5RIMS1UTRNE										
ARRB2FAM116AMARCH7RASSF2TSPAN5CNTFRPSCD3ASH1LFAM130A1MARCKSRBBP4TSPAN6COL4A4PSMD3ASRGL1FAM178AMARK3RBM23TSTCPDPTGFRNATF7IPFAM44BMARK4RBM24TTBK1CSF1RPTPA1ATG16L1FBXO21MCFD2RBM27TTC9DGKGPTPRBATG4DFBXO35MFF2DRBM47TWF1DLGAP12RBGAP1ATTN7FBXO9MGAT3REEP2UBAP1DNAJB7RASGEF1AATXN7FBXO9MGAT4AREREUBE2G1DNAL1RC3H1ATXN7L1FKBP1AMGAT4AREREUBE2Q1DNAL1RC3H1AUTS2FLJ20160MGAT4BRFWD3UBE2Q1DNAL1RC3H1ATTN7FL30309MICAL3RGL2UBL3DSELREPS2BAATFLRT3MIER3RGMAUNC84ADYRK1ARFN2BACH1FMNL2MINK1RGMBUNKLEBF3RIMS2BACH1FNTBMNRHEBUSP37EDNRBRIMS2BAZ1AFOXO1MORKL3RHOBTB3USP46EIF4BRN165BCLAF1FOXO4MORF4L2RICTORUSP6NLEIF4G2RUNX1T1BNC2FSTL4MPP5RIMS1UTRNEIF4G2RUNX1T1										
ASH1LFAM130A1MARCKSRBBP4TSPAN6COL4A4PSMD3ASRGL1FAM178AMARK3RBM23TSTCPDPTGFRNATF7IPFAM44BMARK4RBM24TTBK1CSF1RPTPA1ATG16L1FBXO21MCFD2RBM27TTC9DGKGPTPRBATG4DFBXO33MEF2DRBM47TWF1DLGAP1PVRL2ATP13A2FBXO45MFHAS1RBPMSTXNL1DLGAP2RABGAP1ATXN7FBXO9MGAT3REEP2UBAP1DNAJB7RASGEF1AATXN7L1FKBP1AMGAT4AREREUBE2G1DNAL1RC3H1AUTS2FLJ20160MGAT4BRFWD3UBE2Q1DNPEPRCSD1B3GNT1FLJ2309MICAL3RGMAUNC84ADYRK1ARFTN2BAATFLRT3MIER3RGMAUNC84ADYRK1ARFTN2BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAC11FNTBMN1RHEBUSP37EDARIMS2BA21AFOXO1MOBKL3RHOBTB3USP6NLEIF4BRNASELBLCAPFSD1MOP5RIMS1UTRNEIF4G2RUNX1T1BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B		1996-1996-1996						1015303 State 154		
ASRGL1FAM178AMARK3RBM23TSTCPDPTGFRNATF7IPFAM44BMARK4RBM24TTBK1CSF1RPTPA1ATG16L1FBX021MCFD2RBM27TC9DGKGPTPRBATG4DFBX033MEF2DRBM47TWF1DLGAP1PVRL2ATP13A2FBX045MFHAS1RBPMSTXNL1DLGAP2RABGAP1ATXN7FBX09MGAT3REEP2UBAP1DNAJB7RASGEF1AATXN7L1FKBP1AMGAT4AREREUBE2G1DNAL1RC3H1AUTS2FLJ20160MGAT3RGL2UBL3DSELREPS2BAATFLRT3MIER3RGMAUNC84ADYRK1ARFN2BACH1FMNL2MINK1RGMBUNKLEBF3RIMS2BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAZ1AFOXO1MOBKL3RHOBTB3USP46EIF4BRN165BCLAF1FOXO4MORF4L2RICTORUSP6NLEIF4EROB01BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B										
ATF7IPFAM44BMARK4RBM24TTBK1CSF1RPTP4A1ATG16L1FBXO21MCFD2RBM27TTC9DGKGPTPRBATG4DFBXO33MEF2DRBM47TWF1DLGAP1PVRL2ATP13A2FBXO45MFHAS1RBPMSTXNL1DLGAP2RABGAP1ATXN7FBXO9MGAT3REEP2UBAP1DNAJB7RASGEF1AATXN7L1FKBP1AMGAT4AREREUBE2G1DNAL1RC3H1AUTS2FLJ20160MGAT4BRFWD3UBE2Q1DNPEPRCSD1B3GNT1FLR3MIER3RGMAUNC84ADYRK1ARFN2BAATFLRT3MIER3RGMAUNC84ADYRK1ARFN2BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAT1FNTBMN1RHEBUSP37EDNRBRNASELBAZ1AFOXO1MORF4L2RICTORUSP6NLEIF4BRNF165BCLAF1FOXO4MORF4L2RICTORUSP6NLEIF4EROB01BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B										
ATG16L1FBX021MCFD2RBM27TTC9DGKGPTPRBATG4DFBX033MEF2DRBM47TWF1DLGAP1PVRL2ATP13A2FBX045MFHAS1RBPMSTXNL1DLGAP2RABGAP1ATXN7FBX09MGAT3REEP2UBAP1DNAJB7RASGEF1AATXN7L1FKBP1AMGAT4AREREUBE2G1DNAL1RC3H1AUTS2FLJ20160MGAT4BRFWD3UBE2Q1DNPEPRCSD1B3GNT1FLJ20309MICAL3RGL2UBL3DSELREPS2BAATFLRT3MIER3RGMAUNC84ADYRK1ARFTN2BACH1FMNL2MINK1RGMBUNKLEBF3RIMBP2BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAT1FNTBMN1RHEBUSP37EDNRBRNASELBAZ1AFOXO4MORF4L2RICTORUSP6NLEIF4BRNF165BCLAF1FOX04MORF4L2RICTORUSP6NLEIF4EROB01BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B		1.200.0000000						10.00 B 80.00 B		
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ATP13A2FBXO45MFHAS1RBPMSTXNL1DLGAP2RABGAP1ATXN7FBXO9MGAT3REEP2UBAP1DNAJB7RASGEF1AATXN7L1FKBP1AMGAT4AREREUBE2G1DNAL1RC3H1AUTS2FLJ20160MGAT4BRFWD3UBE2Q1DNPEPRCSD1B3GNT1FLJ20309MICAL3RGL2UBL3DYRK1ARFN2BAATFLRT3MIER3RGMAUNC84ADYRK1ARFN2BACH1FMNL2MINK1RGMBUNKLEBF3RIMBP2BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAT1FNTBMN1RHEBUSP37EDNRBRNASELBAZ1AFOXO1MORF4L2RICTORUSP6NLEIF4BRNF165BLCAP1FSD1MPP5RIMS1UTRNEIF4Q2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B										
ATXN7FBX09MGAT3REEP2UBAP1DNAJB7RASGEF1AATXN7L1FKBP1AMGAT4AREREUBE2G1DNAL1RC3H1AUTS2FLJ20160MGAT4BRFWD3UBE2Q1DNPEPRCSD1B3GNT1FLJ20309MICAL3RGL2UBL3DSELREPS2BAATFLRT3MIER3RGMAUNC84ADYRK1ARFTN2BACH1FMNL2MINK1RGMBUNKLEBF3RIMBP2BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAT1FNTBMN1RHEBUSP37EDNRBRNASELBAZ1AFOX01MORF4L2RICTORUSP6NLEIF4BRNF165BCLAF1FSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B		a subsective sector sector						The second s		
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AUTS2FLJ20160MGAT4BRFWD3UBE2Q1DNPEPRCSD1B3GNT1FLJ20309MICAL3RGL2UBL3DSELREPS2BAATFLRT3MIER3RGMAUNC84AADYRK1ARFTN2BACH1FMNL2MINK1RGMBUNKLEBF3RIMBP2BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAT1FNTBMN1RHEBUSP37EDNRBRNASELBAZ1AFOX01MOBKL3RHOBTB3USP46EIF4BRNF165BCLAF1FOX04MORF4L2RICTORUSP6NLEIF4EROB01BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B		AND TO DO TO						1.7 subst carsulation		
B3GNT1FL20309MICAL3RGL2UBL3DSELREPS2BAATFLRT3MIER3RGMAUNC84ADYRK1ARFTN2BACH1FMNL2MINK1RGMBUNKLEBF3RIMBP2BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAT1FNTBMN1RHEBUSP37EDNRBRNASELBAZ1AFOX01MOBKL3RHOBTB3USP6NLEIF4BRNF165BCLAF1FOX04MORF4L2RICTORUSP6NLEIF4EROB01BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B										
BAATFLRT3MIER3RGMAUNC84ADYRK1ARFTN2BACH1FMNL2MINK1RGMBUNKLEBF3RIMBP2BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAT1FNTBMN1RHEBUSP37EDNRBRNASELBAZ1AFOX01MOBKL3RHOBTB3USP6NLEIF4BRNF165BCLAF1FOX04MORF4L2RICTORUSP6NLEIF4EROB01BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B										
BACH1FMNL2MINK1RGMBUNKLEBF3RIMBP2BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAT1FNTBMN1RHEBUSP37EDNRBRNASELBAZ1AFOX01MOBKL3RHOBTB3USP46EIF4BRNF165BCLAF1FOX04MORF4L2RICTORUSP6NLEIF4EROB01BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B								- The Scheld Charles		
BACH2FNDC3AMKL2RGS10USP31EDARIMS2BAT1FNTBMN1RHEBUSP37EDNRBRNASELBAZ1AFOXO1MOBKL3RHOBTB3USP46EIF4BRNF165BCLAF1FOXO4MORF4L2RICTORUSP6NLEIF4EROB01BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B								1		
BAT1FNTBMN1RHEBUSP37EDNRBRNASELBAZ1AFOXO1MOBKL3RHOBTB3USP46EIF4BRNF165BCLAF1FOXO4MORF4L2RICTORUSP6NLEIF4EROBO1BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B								1.0.000		
BAZ1AFOXO1MOBKL3RHOBTB3USP46EIF4BRNF165BCLAF1FOXO4MORF4L2RICTORUSP6NLEIF4EROBO1BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B								1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		
BCLAF1FOXO4MORF4L2RICTORUSP6NLEIF4EROBO1BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B		10.11.10.1.1.						1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		
BLCAPFSD1MPP5RIMS1UTRNEIF4G2RUNX1T1BNC2FSTL4MRPL22RLFUTXEIF5A2SCN3B										
BNC2 FSTL4 MRPL22 RLF UTX EIF5A2 SCN3B		to be defined and the first of the								
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BRWD3 FUT9 MRPS25 RND1 UTY ELK1 SEC23IP		and the second second second						- and the second second		
		BRWD3	FUT9	MRPS25	RND1	UTY	1	ELK1	SEC23IP	

A. miR-142-3p AND miR-199b- 5p but NOT miR- 146 NOT miR- 150			-142-3p OR miR-199 T miR-146 NOT miF			C. miR-146 AND miR-150 but NOT miR-142- 3p NOT miR- 199b-5p	NOT miR-14	OR miR-150 b 42-3p NOT mif 99b-5p
	BTBD3	FXR1	MTCH1	RNF11	VAMP3		ENTPD1	SEMA3G
	BTBD7	FZD6	MTMR3	RNF38	VEGFA		EP300	SGMS1
	BTBD9	GAB1	MTMR9	ROCK1	VPS24		EPHB2	SH3BP5L
	C10orf18	GANAB	MYH10	ROCK2	VPS26A		FAM134C	SH3TC2
	C10orf46	GARNL1	MYH9	ROD1	WAPAL		FAM26E	SHISA4
	C10orf97	GARNL4	MYLK	RRP15	WASL		FAM65B	SIAH2
	C11orf9	GCNT2	MYO5A	RUNX3	WDR44		FBXL10	SLC10A3
	C13orf1	GFI1	MYST2	S1PR3	WDTC1		FBXW11	SLC2A3
	C16orf70	GHR	NAALADL2	SACS	WIPF2		FBXW2	SLFN13
	C17orf63	GIT1	NAB2	SAMD12	WIPI2		FLOT2	SLITRK3
	C18orf25	GJA5	NARG1	SAR1A	WIZ		FOXD3	SMAD4
	C19orf63	GLIPR1	NAT11	SAT1	WNK3		FOXP1	SNIP
	C1GALT1	GNAQ	NCOA2	SDC4	WNT2		FREQ	SNX21
	C1orf9	GNB2	NCSTN	SEC24C	XPO1		FRYL	SORT1
	C20orf194	GOLGA1	NLK	SEMA3F	YAF2		FTO	SP8
	C20orf3	GPATCH8	NOTUM	SEMA6A	YPEL1		GABRA4	SRrp35
	C21orf66	GPD2	NPAS2	SERPINE1	ZBTB10		GABRG2	ST7L
	C9orf5	GPR124	NR1D2	SFRS1	ZBTB41		GALNT10	ST8SIA4
	C9orf72	GPR180	NR2F6	SGCD	ZBTB46		GDI1	STRA13
	CACNB2	GPR85	NR3C1	SH2B1	ZBTB5		GIGYF2	STRBP
	CAPRIN1	GPR89A	NTNG1	SH3GLB1	ZBTB8		GLE1	STX3
	CAV1	GPRC5A	NUDT11	SH3PXD2A	ZCCHC14		GLIS3	STX5
	CCDC120	GRB10	NUFIP2	SIRT1	ZCCHC24		GRID1	SYN2
	CCDC43	GRIK3	NUP210	SLAMF8	ZCCHC4		GRSF1	SYT1
	CCDC88A	GSK3B	NUPL1	SLC17A5	ZEB2		GTF3C2	TADA1L
	CCDC88C	GTF2A1	ODZ4	SLC1A3	ZFP2		HIG2	TAPT1
	CCNJ	HDLBP	ONECUT2	SLC24A3	ZFYVE20		HNRNPD	TBC1D20
	CCNL1	HECTD1	OSGIN2	SLC25A22	ZFYVE27		HNRNPH3	TCF21
	CCNT2	HEXIM1	OSR1	SLC25A44	ZMYND8		HNRNPU	TDRKH
	CD84	HGS	OTX1	SLC30A7	ZNF215		IER5L	TEX261
	CDCA7L	HIF1A	P15RS	SLC35E1	ZNF217		IGF2BP1	TMCC1
	CDK7	HIPK2	PAN3	SLC35E4	ZNF238		IGSF1	TOM1
	CDKN1C	HLF	PAQR9	SLC35F5	ZNF329		IPO9	TP53
	CELSR1	HMCN1	PARD6B	SLC37A3	ZNF395		IRF2BP2	TRAF6
	CEP192	HMGB1	PARP12	SLC39A10	ZNF439		ITGB3	TRPS1
	CFL2	HOXB6	PATZ1	SLC4A8	ZNF468		ITSN1	TSPYL5
	CHRNE	HSPA12A	PAX3	SLC9A8	ZNF516		JAZF1	TTPAL
	CIITA	HSPA5	PBRM1	SLCO4C1	ZNF547		JMJD3	TXNDC4
	CLCN5	IER3	PCGF3	SMARCA4	ZNF563		KBTBD3	UBE2R2
	CLIC4	ІКВКВ	PCYOX1	SMARCAD1	ZNF579		KCMF1	UBXD8
	CLIP1	INPP5F	PDE4B	SMG1	ZNF594		KCNIP3	UHRF1
	CLTA	IPO8	PDE4D	SNAI1	ZNF614		KCTD15	UPF1
	CLTC	ITCH	PDE8A	SNF1LK	ZNF618		KIAA1310	USP3
	CNN1	ITFG3	PDIK1L	SNF1LK2	ZNF629		KIF24	USP47
	CNOT6L	ITGA3	PDPN	SNN	ZNF652		KLF7	UST
	COG4	ITGA4	PGM1	SNX18	ZNF654		KPNA6	WASF2
	COL24A1	ITGAV	PGRMC2	SNX6	ZNF700		LFNG	WDR40A
	COL5A3	ITGB8	PHACTR4	SOCS6	ZNF701		LIN28	WWC2
	COPG	ITPKB	PI4KA	SOS2	ZNF706		LMO4	ZBTB2
	COPS7A	ITPR3	PICALM	SOX11	ZNF710		LRP11	ZBTB4
	CPEB2	JAG1	PIK3CD	SOX4	ZNF740		LRP2	ZCCHC17
	CRK	JMJD1C	PIK3R6	SPNS1	ZNF763		LRRC15	ZFYVE1
	CRTAM	JPH3	PKN2	SRL	ZNF776		LRRTM2	ZMAT2
	CSDC2	JUNB	PLEKHH1	SRRM1	ZNF827		MAPK13	ZNF189
	CSGALNACT1	KAT2B	PLXNA2	SS18	ZNF831		MBTD1	ZNF229
	CTNND1	KCNU1	PLXND1	ST6GAL1	ZSWIM4		MED1	ZNF532
	CTTN	KCTD16					MIB1	ZNF826
	and the first of the	0.0000000000000000000000000000000000000					MLL2	ZNRF3