

Categorization, Identification and Analysis of MicroRNA Promoters in Four Model Species

Xuefeng Zhou, Jianhua Ruan, Guandong Wang and Weixiong Zhang^{1*}

Department of Computer Science and Engineering

¹Department of Genetics

Washington University in Saint Louis

Saint Louis, MO 63130-4899, USA

December 29, 2006

Supplementary materials

- **Supplementary Figure 1** demonstrates the procedure of our approach.

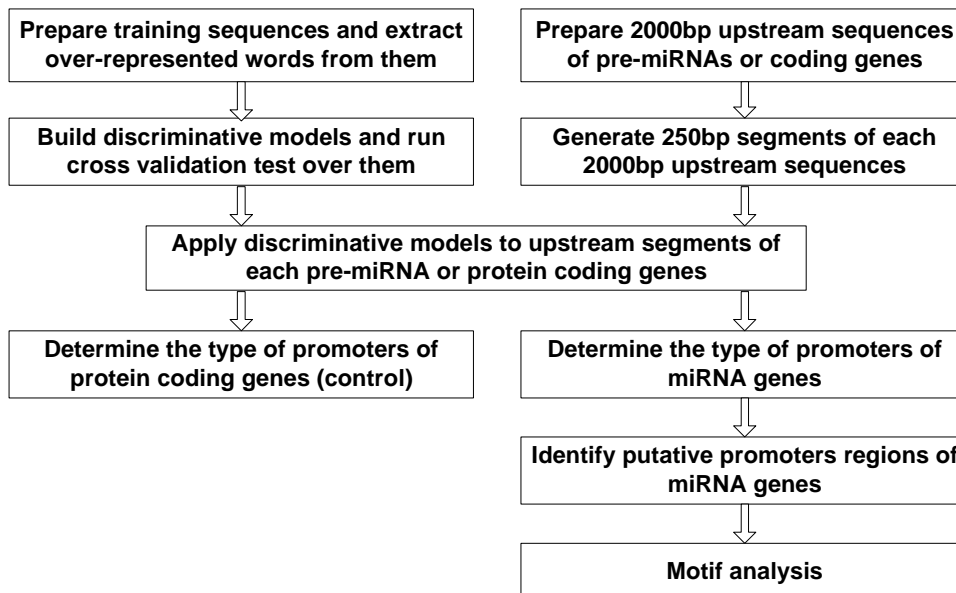


Figure 1: The procedure of the experiment.

- **Supplementary Table 1** shows significant motifs discovered by wordSpy in putative promoters of miRNA genes in the four species. Because of its size, this table is documented in four files, wordspy_motif.ce, wordspy_motif.hsa, wordspy_motif.ath and wordspy_motif.osa, separately
- **Supplementary Table 2** shows putative promoters of miRNA genes in the four species. Because of its size, this table is documented in four files, ce_miRNA_promoter.fa, hsa_miRNA_promoter.fa, ath_miRNA_promoter.fa and osa_miRNA_promoter.fa, separately

*Corresponding author: zhang@cse.wustl.edu, phone: (314)935-8788, fax: (314)935-7302.

- **Supplementary Table 3** shows miRNA genes in each species that contain CpG islands in their upstream regions, and also demonstrate the length, position and CG percentage of those CpG islands

miRNA gene	start	end	length	CG %	miRNA gene	start	end	length	CG %
<i>cel-let-7</i>	-490	-227	264	0.5947	<i>cbr-let-7</i>	-634	0	635	0.480315
<i>cel-lin-4</i>	-843	0	844	0.488152	<i>cbr-lin-4</i>	-864	0	865	0.500578
<i>cel-mir-241</i>	-969	-5	965	0.490155	<i>cbr-mir-241</i>	-999	-44	956	0.495816
<i>cel-mir-51</i>	-292	-58	235	0.5064	<i>cbr-mir-51</i>	-536	0	537	0.500931
<i>cel-mir-52</i>	-1335	0	1336	0.52994	<i>cbr-mir-52</i>	-774	0	775	0.538065
<i>cel-mir-54</i>	-601	0	602	0.488372	<i>cbr-mir-55</i>	-999	-254	746	0.512064
<i>cel-mir-229</i>	-631	0	632	0.509494	<i>cbr-mir-64</i>	-861	0	862	0.515081
<i>cel-mir-80</i>	-652	0	653	0.502297	<i>cbr-mir-80</i>	-394	-133	262	0.4924
<i>hsa-let-7i</i>	-1551	0	1552	0.638531	<i>mmu-let-7i</i>	-1188	0	1189	0.673675
<i>hsa-mir-106a</i>	-1999	-1075	925	0.566486	<i>mmu-mir-106a</i>	-1999	-1296	704	0.599432
<i>hsa-mir-124a-2</i>	-1999	-318	1682	0.58264	<i>mmu-mir-124a-2</i>	-1980	-325	1656	0.547101
<i>hsa-mir-124a-3</i>	-1876	0	1877	0.72456	<i>mmu-mir-124a-3</i>	-1591	0	1592	0.672739
<i>hsa-mir-125a-1</i>	-1118	-327	792	0.510101	<i>mmu-mir-125b-1</i>	-884	-297	588	0.47449
<i>hsa-mir-125a-2</i>	-1837	-1283	555	0.484685	<i>mmu-mir-125b-2</i>	-1999	-1391	609	0.482759
<i>hsa-mir-130a</i>	-1985	-233	1753	0.618939	<i>mmu-mir-130b</i>	-1509	-793	717	0.541144
<i>hsa-mir-148a</i>	-1999	-22	1978	0.623862	<i>mmu-mir-148a</i>	-1593	-162	1432	0.640363
<i>hsa-mir-193a</i>	-1592	0	1593	0.70747	<i>mmu-mir-193</i>	-1528	0	1529	0.646828
<i>hsa-mir-196a-1</i>	-1999	-490	1510	0.589404	<i>mmu-mir-196a-1</i>	-1151	-589	563	0.534636
<i>hsa-mir-196a-2</i>	-946	-801	146	0.6096	<i>mmu-mir-196a-2</i>	-1338	-435	904	0.526549
<i>hsa-mir-210</i>	-1323	0	1324	0.758308	<i>mmu-mir-210</i>	-586	-19	568	0.632042
<i>hsa-mir-219-2</i>	-1088	0	1089	0.708907	<i>mmu-mir-219-2</i>	-976	0	977	0.671443
<i>hsa-mir-320</i>	-925	0	926	0.603672	<i>mmu-mir-320</i>	-978	0	979	0.582227
<i>hsa-mir-345</i>	-708	-175	534	0.657303	<i>mmu-mir-345</i>	-1868	-294	1575	0.633016
<i>hsa-mir-34b</i>	-822	0	823	0.697448	<i>mmu-mir-34b</i>	-671	0	672	0.66369
<i>hsa-mir-375</i>	-628	0	629	0.689984	<i>mmu-mir-375</i>	-1999	0	2000	0.6555
<i>hsa-mir-9-3</i>	-942	0	943	0.66596	<i>mmu-mir-9-3</i>	-851	0	852	0.640845