

Supplemental Data

Table.S1 Feature list

	Feature name	F-value
mRNA	the length of 3'UTR	0.1586
	the AU content of 3'UTR	0.152
	the free energy of 3'UTR	0.1875
	whether there exist a ARE in 3'UTR	0.0376
miRNA-mRNA pair	the number of binding sites (PicTar)	0.3
	the average of free energy	0.39
	the position of binding site	0.0653
	the numbers of matches at 5'part	0.02
	the numbers of matches at 3'part	0.178
	the numbers of matches at entire duplex	0.1632
	the numbers of mismatches at 5'part	0.0148
	the numbers of mismatches at 3'part	0.1707
	the numbers of mismatches at entire duplex	0.1665
	the numbers of GU pairs at 5'part	0.07
	the numbers of GU pairs at 3'part	0.02
	the numbers of GU pairs at entire duplex	0.005
	the free energy of 3'part(RNAhybrid)	0.14
	the free energy of 3'part(RNAfold)	0.1067
	the free energy of entire duplex	0.2861
	the contents of single nucleotide A at the target region with base-pairing the 9-11 positions of miRNA	0.1381
	the contents of single nucleotide U at the target region with base-pairing the 9-11 positions of miRNA	0.1684
	the contents of single nucleotide G at the target region with base-pairing the 9-11 positions of miRNA	0.0234
	the contents of single nucleotide C at the target region with base-pairing the 9-11 positions of miRNA	0.0887
	the contents of nucleotides AU at the target region with base-pairing the 9-11 positions of miRNA	0.0450
the contents of nucleotides GU at the target region with base-pairing the 9-11 positions of miRNA	0.1955	
the contents of nucleotides CU at the target region with base-pairing the 9-11 positions of miRNA	0.09	
the binding region	the AU content of binding region	0.1948
	the number of binding sites (PITA)	0.31
	Target_score (PITA)	0.3

Table.S2 microRNA:mRNA interactions used in our work

<i>microRNA</i>	<i>Target mRNA</i>	<i>Data type</i>
hsa-miR-10a	NM_153620	mRNA degradation
hsa-miR-124	NM_006016	mRNA degradation
hsa-miR-124	NM_003051	mRNA degradation
hsa-miR-124	NM_002293	mRNA degradation
hsa-miR-124	NM_003848	mRNA degradation
hsa-miR-124	NM_004781	mRNA degradation
hsa-miR-16	NM_145341	mRNA degradation
hsa-miR-16	NM_014333	mRNA degradation
has-miR-106b	NM_005225	mRNA degradation
has-miR-122	NM_184043	mRNA degradation
has-miR-106b	NM_078467	mRNA degradation
hsa-miR-107	NM_012104	mRNA degradation

hsa-miR-21	NM_006915	mRNA degradation
hsa-let-7b	NM_201567	mRNA degradation
hsa-let-7b	NM_020993	mRNA degradation
hsa-let-7c	NM_002467	mRNA degradation
hsa-miR-29a	NM_022552	mRNA degradation
hsa-miR-29c	NM_175848	mRNA degradation
hsa-miR-24	NM_004302	mRNA degradation
hsa-miR-29c	NM_000090	mRNA degradation
hsa-miR-29c	NM_001855	mRNA degradation
hsa-miR-29c	NM_003211	mRNA degradation
hsa-miR-29c	NM_000138	mRNA degradation
hsa-let-7b	NM_003483	mRNA degradation
hsa-miR-221	NM_004064	mRNA degradation
hsa-miR-200c	NM_030751	mRNA degradation
hsa-miR-141	NM_003238	mRNA degradation
hsa-miR-98	NM_003483	mRNA degradation
hsa-miR-107	NM_138973	mRNA degradation
hsa-miR-124	NM_021814	mRNA degradation
hsa-miR-124	NM_033161	mRNA degradation
hsa-miR-124	NM_014445	mRNA degradation
hsa-miR-124	NM_032121	mRNA degradation
hsa-miR-124	NM_018211	mRNA degradation
hsa-miR-130a	NM_005924	mRNA degradation
hsa-miR-17-5p	NM_000389	mRNA degradation
hsa-miR-27a	NM_023929	mRNA degradation
hsa-miR-34a	NM_053056	mRNA degradation
hsa-miR-155	NM_031934	mRNA degradation
hsa-miR-155	NM_002264	mRNA degradation
hsa-miR-155	NM_032228	mRNA degradation
hsa-miR-16	NM_001667	mRNA degradation
hsa-miR-16	NM_203459	mRNA degradation
hsa-miR-16	NM_032840	mRNA degradation
hsa-miR-16	NM_006313	mRNA degradation
hsa-miR-16	NM_014904	mRNA degradation
hsa-miR-16	NM_007222	mRNA degradation
hsa-miR-16	NM_004309	mRNA degradation
hsa-miR-16	NM_012129	mRNA degradation
hsa-miR-16	NM_002203	mRNA degradation
hsa-miR-16	NM_017955	mRNA degradation
hsa-miR-16	NM_053056	mRNA degradation
hsa-miR-16	NM_002250	mRNA degradation
hsa-miR-16	NM_000024	mRNA degradation
hsa-miR-16	NM_003461	mRNA degradation
hsa-miR-16	NM_016227	mRNA degradation
hsa-miR-16	NM_024111	mRNA degradation
hsa-miR-16	NM_015069	mRNA degradation
hsa-miR-16	NM_004440	mRNA degradation
hsa-miR-16	NM_031411	mRNA degradation
hsa-miR-16	NM_004603	mRNA degradation
hsa-miR-16	NM_012302	mRNA degradation
hsa-miR-16	NM_017913	mRNA degradation
hsa-miR-16	NM_005438	mRNA degradation
hsa-miR-1	NM_014445	mRNA degradation
hsa-miR-1	NM_000362	mRNA degradation
hsa-miR-1	NM_080546	mRNA degradation
hsa-miR-1	NM_000165	mRNA degradation
hsa-miR-1	NM_000161	mRNA degradation

hsa-miR-1	NM_006148	mRNA degradation
hsa-miR-1	NM_002455	mRNA degradation
hsa-miR-1	NM_138335	mRNA degradation
hsa-miR-124	NM_002835	mRNA degradation
hsa-miR-124	NM_006663	mRNA degradation
hsa-miR-124	NM_004781	mRNA degradation
hsa-miR-124	NM_017851	mRNA degradation
hsa-miR-124	NM_001002257	mRNA degradation
hsa-miR-124	NM_001665	mRNA degradation
hsa-miR-124	NM_031991	mRNA degradation
hsa-miR-124	NM_005397	mRNA degradation
hsa-miR-124	NM_001964	mRNA degradation
hsa-miR-124	NM_004862	mRNA degradation
hsa-miR-124	NM_001497	mRNA degradation
hsa-miR-124	NM_001154	mRNA degradation
hsa-miR-124	NM_004339	mRNA degradation
hsa-miR-124	NM_002293	mRNA degradation
hsa-miR-124	NM_014445	mRNA degradation
hsa-miR-124	NM_005646	mRNA degradation
hsa-miR-124	NM_005697	mRNA degradation
hsa-miR-124	NM_183234	mRNA degradation
hsa-miR-124	NM_030805	mRNA degradation
hsa-miR-124	NM_007236	mRNA degradation
hsa-miR-124	NM_152261	mRNA degradation
hsa-miR-124	NM_030786	mRNA degradation
hsa-miR-124	NM_181746	mRNA degradation
hsa-miR-124	NM_006858	mRNA degradation
hsa-miR-124	NM_001845	mRNA degradation
hsa-miR-124	NM_000399	mRNA degradation
hsa-miR-124	NM_024092	mRNA degradation
hsa-miR-181	NM_005808	mRNA degradation
hsa-miR-181	NM_145322	mRNA degradation
hsa-miR-181	NM_014738	mRNA degradation
hsa-miR-181	NM_175709	mRNA degradation
hsa-miR-181	NM_001482	mRNA degradation
hsa-miR-181	NM_024590	mRNA degradation
hsa-miR-181	NM_002956	mRNA degradation
hsa-miR-181	NM_030816	mRNA degradation
hsa-miR-181	NM_015216	mRNA degradation
hsa-miR-1	NM_014445	mRNA degradation
hsa-miR-1	NM_174921	mRNA degradation
hsa-miR-1	NM_003769	mRNA degradation
hsa-miR-196a	NM_022658	translational repression
hsa-miR-196a	NM_019558	translational repression
hsa-miR-223	NM_005595	translational repression
hsa-miR-20a	NM_005225	translational repression
hsa-miR-17	NM_005225	translational repression
hsa-miR-133a	NM_172057	translational repression
hsa-miR-26a	NM_005900	translational repression
hsa-miR-221	NM_004064	translational repression
hsa-miR-203	NM_003955	translational repression
hsa-miR-375	NM_003368	translational repression
hsa-miR-10b	NM_002148	translational repression
hsa-miR-372	NM_014572	translational repression
has-miR-155	NM_005194	translational repression
has-miR-1	NM_022763	translational repression
has-miR-1	NM_004859	translational repression

has-miR-1	NM_022130	translational repression
has-miR-1	NM_003262	translational repression
has-miR-1	NM_003873	translational repression
has-miR-1	NM_144497	translational repression
has-miR-1	NM_015902	translational repression
has-miR-1	NM_001693	translational repression
has-miR-1	NM_182976	translational repression
has-miR-1	NM_003902	translational repression
has-miR-1	NM_001261	translational repression
has-miR-1	NM_031157	translational repression
has-miR-1	NM_001968	translational repression
has-miR-30	NM_017780	translational repression
has-miR-30	NM_016219	translational repression
has-miR-30	NM_003380	translational repression
has-miR-30	NM_005911	translational repression
has-miR-30	NM_003651	translational repression
has-miR-30	NM_002687	translational repression
has-miR-30	NM_033407	translational repression
has-miR-30	NM_004040	translational repression
has-miR-30	NM_006754	translational repression
has-miR-30	NM_170665	translational repression
has-miR-30	NM_022730	translational repression
has-miR-16	NM_033631	translational repression
has-miR-16	NM_004873	translational repression
has-miR-16	NM_004093	translational repression
has-miR-16	NM_030805	translational repression
has-miR-16	NM_006077	translational repression
has-miR-16	NM_002719	translational repression
has-miR-16	NM_020963	translational repression
has-miR-16	NM_002136	translational repression
has-miR-16	NM_003487	translational repression
has-miR-16	NM_003761	translational repression
has-miR-16	NM_004035	translational repression
has-miR-16	NM_001417	translational repression
has-miR-16	NM_005777	translational repression
has-miR-16	NM_005880	translational repression
has-miR-16	NM_005742	translational repression
has-miR-16	NM_133370	translational repression
has-miR-16	NM_006925	translational repression
has-miR-124	NM_012333	translational repression
has-miR-124	NM_021183	translational repression
has-miR-124	NM_004370	translational repression
has-miR-124	NM_133452	translational repression
has-miR-124	NM_017798	translational repression
has-miR-124	NM_015577	translational repression
has-miR-124	NM_003111	translational repression
has-miR-124	NM_007217	translational repression
has-miR-124	NM_001755	translational repression
has-miR-124	NM_021190	translational repression
has-miR-124	NM_014729	translational repression
has-miR-181	NM_203504	translational repression
has-miR-181	NM_017632	translational repression
has-miR-181	NM_003858	translational repression
has-miR-181	NM_012479	translational repression
has-miR-1	NM_001412	translational repression
has-miR-1	NM_001655	translational repression
has-miR-1	NM_004808	translational repression

has-miR-1	NM_145690	translational repression
has-miR-1	NM_004299	translational repression
has-miR-1	NM_003800	translational repression
has-miR-1	NM_005433	translational repression
has-miR-1	NM_016081	translational repression
has-miR-1	NM_001693	translational repression
has-miR-1	NM_007217	translational repression
has-miR-1	NM_031991	translational repression
has-miR-1	NM_003194	translational repression
has-miR-1	NM_005402	translational repression
has-miR-1	NM_017491	translational repression
miR-375	NM_003368	translational repression
has-miR-26	NM_005900	translational repression
has-miR-106b	NM_000321	translational repression
has-miR-133	NM_021190	translational repression
has-miR-23a	NM_004575	translational repression
has-Let-7	NM_002524	translational repression
has-miR-101	NM_005378	translational repression
has-Let-7	NM_145808	translational repression
has-miR-124	NM_145808	translational repression
has-miR-375	NM_145808	translational repression
has-miR-375	NM_004972	translational repression
has-miR-10a	NM_153620	translational repression
has-miR-23	NM_005524	translational repression
has-miR-1	NM_021973	translational repression
has-miR-1	NM_000165	translational repression
has-miR-206	NM_000165	translational repression
has-miR-26a	NM_152998	translational repression
has-miR-15a	NM_021145	translational repression
has-miR-23a	NM_000609	translational repression
has-miR-130	NM_000757	translational repression
has-miR-29b	NM_138971	translational repression
has-miR-101	NM_004456	translational repression