

**A**

Amino acid sequence			M			R			R			R			R			*		
Protein-coding sequence	Sequence	A	T	G	A	G	G	C	G	A	C	G	C	C	G	G	T	A	A	
	Z-score of MI	0.37	-0.01	0.25	1.81	-0.27	-0.63	-0.02	0.52	-2.01	0.34	-1.25	2.95	0.58	-0.52	0.42	-0.41	0.55	1.05	
	Base group	START			O	M	O	O	M	S	M	M	S	O	M	S	STOP			
Control #1	Sequence	A	T	G	C	G	A	C	G	G	C	G	C	A	G	G	T	A	A	
	Z-score of MI	0.41	0.44	-0.64	0.04	1.80	0.16	-0.43	0.95	-0.02	0.93	-0.43	0.26	-1.27	-1.84	0.00	0.96	-0.69	0.23	
	Base group	START			O	M	S	O	M	S	M	M	S	O	M	O	STOP			
Control #2	Sequence	A	T	G	C	G	G	C	G	C	A	G	G	C	G	A	T	A	A	
	Z-score of MI	-0.59	0.52	-1.72	-0.04	-0.35	-0.27	0.21	-1.16	-1.30	1.32	1.53	1.06	2.12	-0.16	-1.09	0.59	-0.30	-0.50	
	Base group	START			O	M	S	M	M	S	O	M	O	O	M	S	STOP			
Control #3	Sequence	A	T	G	C	G	G	A	G	G	C	G	C	C	G	A	T	A	A	
	Z-score of MI	0.41	0.90	-0.45	-0.52	-1.02	-2.35	-0.93	0.59	-0.57	-0.26	0.66	0.73	1.21	0.20	-2.53	0.39	0.56	-2.21	
	Base group	START			O	M	S	O	M	O	M	M	S	O	M	S	STOP			
Control #4	Sequence	A	T	G	A	G	G	C	G	A	C	G	C	C	G	G	T	A	A	
	Z-score of MI	-0.64	-0.32	-0.29	-2.41	0.22	0.62	-2.20	2.28	-1.83	-0.17	0.29	-1.11	1.37	-1.44	-0.26	-1.05	-1.02	-0.41	
	Base group	START			O	M	O	O	M	S	M	M	S	O	M	S	STOP			

**B**

	MI average				
	Start codon	Base <sub>silent</sub>	Base <sub>missense</sub>	Base <sub>other</sub>	Stop codon
Protein-coding sequence	0.20	0.45	-0.24	0.44	0.40
Control #1	0.07	0.13	0.28	-0.42	0.17
Control #2	-0.60	-0.89	0.01	1.12	-0.07
Control #3	0.29	-1.38	0.03	-0.20	-0.42
Control #4	-0.42	-1.07	0.24	-0.66	-0.83
Rank of protein-coding sequence among all control sequences	4	5	1	4	5

**C**