## **GENEMARK PREDICTIONS**

Sequence file: seq.fna Sequence length: 60345 GC Content: 66.17% Window length: 96 Window step: 12

Threshold value: 0.500

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Matrix: Mycobacterium\_smegmatis\_MC2\_155

Matrix author: - Matrix order: 4

List of Open reading frames predicted as CDSs, shown with alternate starts (regions from start to stop codon w/ coding function >0.50)

Left end 	Right end	DNA Strand	Coding Frame	Avg Prob	Start Prob
8838 8838 8838	8945 8918 8915	complement complement	fr 2 fr 2 fr 2	0.59 0.57 0.51	0.86 0.98 0.89
17101	17202	direct	fr 1	0.55	0.72
19620 19620	19736 19727	complement complement	fr 2 fr 2	0.50 0.50	0.99 0.99
31953	32051	complement	fr 2	0.53	0.92
38431	38604	direct	fr 1	0.52	1.00
37884	37970	direct	fr 3	0.51	0.71
47162	47263	direct	fr 2	0.51	0.99
60088	60195	complement	fr 3	0.50	0.94

List of Regions of interest (regions from stop to stop codon w/ a signal in between)

REnd	Strand	Frame
382	complement	fr 1
422	complement	fr 2
495	complement	fr 3
1221	complement	fr 3
	382 422 495	REnd Strand  382 complement  422 complement  495 complement  1221 complement

578	1711	complement	fr 1
993	1391	complement	fr 2
1906	2196	direct	fr 1
2194	2445	direct	fr 1
	3036	complement	fr 3
2467		•	
2496	2756	complement	fr 2
2754	2915	complement	fr 2
3400	3786	complement	fr 3
3534	3767	complement	fr 2
4336	4920	complement	fr 3
4481	5095	complement	fr 1
4617	4994	complement	fr 2
5145	5774	direct	fr 3
6891	7493	complement	fr 2
7163	7393	complement	fr 1
8505	8840	complement	fr 2
8603	8917	complement	fr 1
8838	9014	complement	fr 2
9015	9332	complement	fr 2
9022	9876	complement	fr 3
9558	9782	complement	fr 2
9874	10806	complement	fr 3
10791	11456	complement	fr 2
10883	11689	complement	fr 1
11119	11553	complement	fr 3
11658	11921	complement	fr 2
11747	12133	complement	fr 1
11965	12426	complement	fr 3
12218	12406	direct	fr 2
12270	12497	complement	fr 2
12770	12940	complement	fr 1
13419	13643	complement	fr 2
13537	13830	complement	fr 3
13814	14383	complement	fr 1
13828	14061	complement	fr 3
14059	14658	complement	fr 3
14381	15292		fr 1
		complement	
15092	15649	direct	
16036	16362	complement	fr 3
16360	16809	complement	fr 3
16908	17675	complement	fr 2
17041	17202	direct	fr 1
17209	17655	complement	fr 3
17525	17848	complement	fr 1
17673	17966	complement	fr 2
18990	19487	complement	fr 2
19620	20345	complement	fr 2
19740	20204	direct	fr 3
20243	20749	complement	fr 1

20676	21125	complement	fr 2
21389	21625	complement	fr 1
21420	21779	complement	fr 2
22064	22663		fr 1
		complement	
22108	22587	complement	fr 3
22185	22562	complement	fr 2
23098	23496	direct	fr 1
23562	24035	direct	fr 3
23647	24489	direct	fr 1
24272	25318	direct	fr 2
24526	25392	direct	fr 1
24939	25286	direct	fr 3
25376	25879	direct	fr 2
25390	25671	direct	fr 1
26110	26406	direct	fr 1
26846	27118	direct	fr 2
27139	27771	direct	fr 1
27204	27806	complement	fr 2
27545	27901	direct	fr 2
28589	29257	complement	fr 1
29166	30083	direct	fr 3
29336	29722	direct	fr 2
30378	30644	direct	fr 3
30724	30990	direct	fr 1
	31432		fr 1
30776		complement	
31528	31806	complement	fr 3
31953	32096	complement	fr 2
32030	32464	direct	fr 2
32275	32496	complement	fr 3
32448	32927	complement	fr 2
33039	33536	complement	fr 2
33566	34036	complement	fr 1
33655	34293	complement	fr 3
34020	34244	complement	fr 2
34470	34658	complement	fr 2
34863	35369	complement	fr 2
35966	36460	direct	fr 2
36055	36231	direct	fr 1
36458	37573	direct	fr 2
37110	37970	direct	fr 3
37165	38604	direct	fr 1
38031	38426	direct	fr 3
38351	39367	direct	fr 2
38919	39071	direct	fr 3
39468	40166	direct	fr 3
39544	39975	direct	fr 1
40254	40781	direct	fr 3
40627	41145	direct	fr 1
40805	41095	direct	fr 2

41093	41755	direct	fr	2
41596	42213	direct	fr	1
41646	42065	direct	fr	3
41856	42539	complement	fr	2
42108	42326	direct	fr	3
42211	42384	direct	fr	1
42421	43140	direct	fr	1
43138	44538	direct	fr	1
43182	43388	direct	fr	3
45345	46235	direct	fr	3
45932	46288	direct	fr	2
46233	47012	direct	fr	3
46286	46537	direct	fr	2
47010	47276	direct	fr	3
47018	47263	direct	fr	2
47140	47868	direct	fr	1
47261	47674	direct	fr	2
47409	48119	direct	fr	3
47672	48199	direct	fr	2
48058	48525	direct	fr	1
48616	48933	direct	fr	1
49259	50275	complement	fr	1
49279	50598	complement	fr	3
49824	50429	complement	fr	2
50468	51820	complement	fr	1
50649	51251	complement	fr	2
50980	51141	complement	fr	3
51249	51524	complement	fr	2
51346	52071	complement	fr	3
51522	52244	complement	fr	2
51818	52015	complement	fr	1
52160	52693	direct	fr	2
52192	52629	direct	fr	1
53295	53750	direct	fr	3
54353	54613	complement	fr	1
54611	55177	complement	fr	1
54850	55113	complement	fr	
55116	55451	complement	fr	2
55258	55653	direct	fr	1
55692	56453	complement	fr	2
56451	56780	complement	fr	2
56467	56712	direct	fr	1
57138	57557	complement	fr	2
57401	57928	complement	fr	1
58263	58796	complement	fr	2
58538	59989	complement	fr	1
58794	59204	complement	fr	2
59202	59696	complement	fr	2
59629	60027	complement	fr	3
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60088 60345 complement fr 3

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ABOUT THE MATRIX USED:

Training set derived by GeneMarkS, 4.27 September 2014 Tue Sep 23 15:23:03 2014