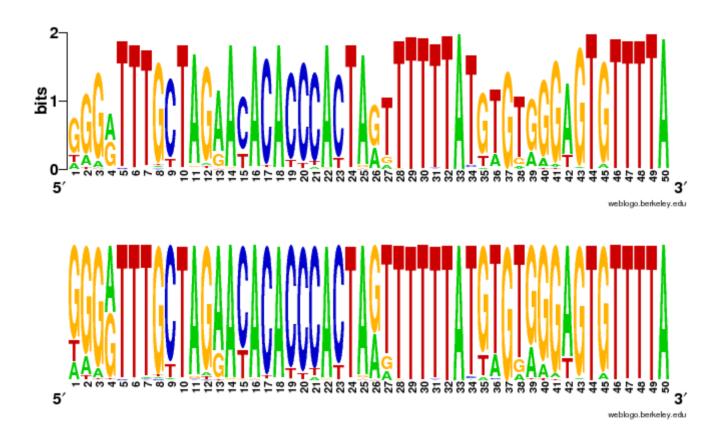
Supplementary figure 1. Sequence logos calculated for 50 bp long terminal parts of 198 MuTAnTs copies.



Supplementary figure 2. Graphical visualization of the blastn results of *MuTAnTs* family members obtained with TARGeT pipeline.

		0	300	600	900		1200	1500	1800 (Base Pairs)
		L <u>L</u>	.1						
1_Mt_pz5 (+) MtChr1 (BPs)	41.37824	118						121	41.39476 289
2_Mt_pz5 (-) MtChr7 (BPs)	23424545	5 163			164	23423583 13			
3_Mt_pz5 (-) MtChr8 (BPs)	12540707	40		145	12539994 289				
4_Mt_pz5 (+) MtChr2 (BPs)	12800876	6 76	142	- 12801477 282	7				
5_Mt_pz5 (+) MtChr1 (BPs)	873709	5 106	107	874285 289					
6_Mt_pz5 (-) MtChr8 (BPs)	33925798	18 		25341					
7_Mt_pz5 (+) MtChr3 (BPs)	17179924	40	183 289	L80372					
8_Mt_pz5 (+) MtChr5 (BPs)	17091252	2	258 17091676 267 291	5					
9_Mt_pz5 (+) MtChr1 (BPs)	18394857	180	181 183 289	95280					
10_Mt_pz5 (-) MtChr4 (BPs)	31663661	201	204 - 316 273	63250					
11_Mt_pz5 (-) MtChr2 (BPs)	4265407	1	162 4265009 289						
12_Mt_pz5 (+) MtChr4 (BPs)	14709318	40	224 147097) 289	14					
13_Mt_pz5 (+) MtChr2 (BPs)	324629	27 91 90	325009						
14_Mt_pz5 (-) MtChr4 (BPs)	41707209	5 52 51	41706835						
15_Mt_pz5 (+) MtChr4 (BPs)	30829662	5 135 77	30830009 289						
16_Mt_pz5 (-) MtChr7 (BPs)	34403256	2 98 97	34402931 293						
17_Mt_pz5 (-) MtChr2 (BPs)	27298320	7 2 	217 27298004 289						
18_Mt_pz5 (-) MtChr1 (BPs)	26801.979	1	26801679 293						
19_Mt_pz5 (-) MtChr3 (BPs)	516869	4	516573						
20_Mt_pz5 (+) MtChr7 (BPs)	11318625	1	11.318921 293						

21_Mt_pz5 (-) MtChr4 (BPs)	1 4729985	4728691 293
22_Mt_pz5 (-) AC146793 (BPs)	1 37531	37239 293
23_Mt_pz5 (-) MtChr3 (BPs)	1 17627-366	17627074 293
24_Mt_pz5 (-) MtChr5 (BPs)	32523799	32523507 293
25_Mt_pz5 (-) MtChr3 (BPs)	5531035	5530744 293
26_Mt_pz5 (-) MtChr3 (BPs)	43624259	4.362.3968 292
27_Mt_pz5 (+) MtChr7 (BPs)	2 5784249	5784540 292
28_Mt_pz5 (-) AC233679 (BPs)	1 6731	6440 293
29_Mt_pz5 (+) MtChr8 (BPs)	6569171	6569462 293
30_Mt_pz5 (-) MtChr8 (BPs)	3 31489780	31.489489 293
31_Mt_pz5 (-) MtChr2 (BPs)	1 30037743	30037452 291
32_Mt_pz5 (+) MtChr6 (BPs)	18258604	18268895 293
33_Mt_pz5 (-) MtChr4 (BPs)	11411075	11410784 293
34_Mt_pz5 (-) MtChr3 (BPs)	3 40066121	40065831. 293
35_Mt_pz5 (-) MtChr3 (BPs)	1 6361098	6360808 292
36_Mt_pz5 (+) MtChr3 (BPs)	3 5525124	5525414 293
37_Mt_pz5 (+) MtChr3 (BPs)	1	8268278 293
38_Mt_pz5 (-) MtChr7 (BPs)	1 17339410	17339120 292
39_Mt_pz5 (-) MtChr8 (BPs)	1 9368314	9368024 293
40_Mt_pz5 (+) MtChr5 (BPs)	1 17446056	17446346

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41_Mt_pz5 (-) MtChr2 (BPs)	2622.3671.	1 262233 291
<mark>42_Mt_pz5 (-)</mark> MtChr2 (BPs)	30483003	1 304827 292
43_Mt_pz5 (+) MtChr6 (BPs)	9713134	3 971342 293
44_Mt_pz5 (+) MtChr1 (BPs)	20279674	2 2027990 292
<mark>45_Mt_pz5 (-)</mark> MtChr4 (BPs)	5378762	1 537847 291
46_Mt_pz5 (+) MtChr3 (BPs)	25411085	7 25411 293
47_Mt_pz5 (+) MtChr3 (BPs)	6749857	3 675014 293
48_Mt_pz5 (-) MtChr8 (BPs)	35517961	1 355170 289
<mark>49_Mt_pz5 (-)</mark> MtChr5 (BPs)	15690636	4 156903 293
50_Mt_pz5 (+) AC225517 (BPs)	58861	2 59150 291
51_Mt_pz5 (+) MtChr4 (BPs)	24527115	4 245274 293
52_Mt_pz5 (+) MtChr3 (BPs)	9785869	4 97861.5 293
53_Mt_pz5 (-) MtChr8 (BPs)	1.2876597	4 128763
54_Mt_pz5 (-) MtChr5 (BPs)	33193619	1 331933 292
55_Mt_pz5 (-) MtChr5 (BPs)	4599272	1 459998 293
56_Mt_pz5 (-) MtChr2 (BPs)	2765423	3 27651.3 292
57_Mt_pz5 (+) MtChr6 (BPs)	17545266	1 175459 293
58_Mt_pz5 (-) MtChr4 (BPs)	9346091	3 934580 293
59_Mt_pz5 (+) MtChr3 (BPs)	43513581	3 43513 291
60_Mt_pz5 (-) MtChr3 (BPs)	35476140	2 35475

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61_Mt_pz5 (-) MtChr7 (BPs)	7859740	3 7859453 290
62_Mt_pz5 (+) MtChr8 (BPs)	33152279	3 33152566 293
<mark>63_Mt_pz5 (+)</mark> MtChr5 (BPs)	2872.3.326	5 2872361.3 292
64_Mt_pz5 (+) MtChr1 (BPs)	4620197	3 4620484 293
65_Mt_pz5 (+) MtChr4 (BPs)	9974109	2 9974396 289
66_Mt_pz5 (+) MtChr3 (BPs)	1053950	4 1054236 290
67_Mt_pz5 (+) MtChr7 (BPs)	6393557	1 6393843 292
68_Mt_pz5 (+) MtChr8 (BPs)	17916483	2 17916769 288
69_Mt_pz5 (-) MtChr5 (BPs)	36805500	1 36805214 291
70_Mt_pz5 (-) MtChr6 (BPs)	56041.40	4 5603854 291
71_Mt_pz5 (-) AC225530 (BPs)	29580	4 29294 293
72_Mt_pz5 (+) MtChr3 (BPs)	21702975	5 21703260 293
73_Mt_pz5 (-) MtChr7 (BPs)	18241088	5 18240803 293
74_Mt_pz5 (-) MtChr5 (BPs)	32779823	4 32779538 291
75_Mt_pz5 (-) MtChr5 (BPs)	4600404	5 4600119 293
76_Mt_pz5 (+) MtChr5 (BPs)	30069451	3 30069736 292
77_Mt_pz5 (+) AC225518 (BPs)	28553	5 28638 293
78_Mt_pz5 (-) MtChr2 (BPs)	31984848	5 31984563 292
79_Mt_pz5 (+) MtChr6 (BPs)	2995500	5 2995785 291
80_Mt_pz5 (-) MtChr1 (BPs)	17450473	3 17450188

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81_Mt_pz5 (-) MtChr4 (BPs)	20520373	20520 289
82_Mt_pz5 (-) MtChr7 (BPs)	17934451	2 1793 289
83_Mt_pz5 (+) MtChr5 (BPs)	30089786	5 3009 289
84_Mt_pz5(-) MtChr5 (BPs)	17497352	3 1749 287
85_Mt_pz5 (-) MtChr7 (BPs)	246191.36	5 2461/ 289
86_Mt_pz5 (-) MtChr7 (BPs)	16034906	1 1603 284
87_Mt_pz5 (+) MtChr8 (BPs)	24470403	2 2447 285
88_Mt_pz5 (-) MtChr5 (BPs)	23551.32	5 2354 289
89_Mt_pz5 (-) MtChr6 (BPs)	16329883	5 1632 291
90_Mt_pz5 (-) MtChr1 (BPs)	12354408	5 243 1235 173 289
91_Mt_pz5 (-) MtChr1 (BPs)	31591464	5 31.59 289
92_Mt_pz5 (+) MtChr3 (BPs)	1435230	5 1435 289
93_Mt_pz5 (-) MtChr7 (BPs)	11.395420	1 11.399 292
94_Mt_pz5 (-) MtChr7 (BPs)	2264755	5 22644 289
95_Mt_pz5 (-) MtChr5 (BPs)	1747831	2 1747 285
96_Mt_pz5 (-) MtChr5 (BPs)	28176618	5 28176 289
97_Mt_pz5 (+) MtChr1 (BPs)	10074470	5
98_Mt_pz5 (+) MtChr1 (BPs)	6064847	5 60653 288
99_Mt_pz5 (-) MtChr1 (BPs)	31624629	3 31624 292
100_Mt_pz5 (-) MtChr4 (BPs)	2473379	5

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101 14		3	
101_Mt_pz5 (+) MtChr3 (BPs)	32440004	293	128
102_Mt_pz5 (-) MtChr8 (BPs)	26091112	5 26090 289	83
103_Mt_pz5 (+) MtChr8 (BPs)	15504912	5 1550 289	51
104_Mt_pz5 (-) MtChr8 (BPs)	17971975	5 • 17971 289	169
105_Mt_pz5 (-) MtChr5 (BPs)	17303354	5 • 1730 289	30
106_Mt_pz5 (-) MtChr5 (BPs)	24392567	5 24390 289	23
107_Mt_pz5 (-) MtChr5 (BPs)	14250611	5 ••••••••••••••••••••••••••••••••••••	03
108_Mt_pz5 (+) MtChr2 (BPs)	21876815	5 	709
109_Mt_pz5 (-) MtChr4 (BPs)	19897505	5 ••••••••••••••••••••••••••••••••••••	22
110_Mt_pz5 (-) MtChr4 (BPs)	8906446	5 ••••••••••••••••••••••••••••••••••••	.65
111_Mt_pz5 (+) MtChr2 (BPs)	26225003	5 	28
112_Mt_pz5 (-) MtChr2 (BPs)	24501.360	5 	1.08
113_Mt_pz5 (+) MtChr1 (BPs)	32734601	5 	188
114_Mt_pz5 (+) MtChr1 (BPs)	10940424	5 	070
115_Mt_pz5 (+) MtChr1 (BPs)	32657794	5 • 32658 293	07
116_Mt_pz5 (-) MtChr4 (BPs)	12459810	7 1245 287	95
117_Mt_pz5 (+) MtChr8 (BPs)	19476443	5 • 19476 289	572
118_Mt_pz5 (+) MtChr6 (BPs)	7725831	5 • 77261 289	.10
119_Mt_pz5 (+) MtChr3 (BPs)	20566248	5 • 20566 289	52
120_Mt_pz5 (-) MtChr5 (BPs)	36991854	1 36991	.57

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121_Mt_pz5 (-) MtChr2 (BPs)	12065940	5	12065662 289
122_Mt_pz5 (+) MtChr8 (BPs)	22531572	16	211 22531849 276
123_Mt_pz5 (+) MtChr5 (BPs)	17114297	5	17114574
124_Mt_pz5 (+) MtChr1 (BPs)	569105	5	• 569382 285
125_Mt_pz5 (+) MtChr7 (BPs)	1837143	9	1837419
126_Mt_pz5 (-) MtChr8 (BPs)	27882438	3	278821.62
127_Mt_pz5 (+) MtChr1 (BPs)	14675199	5	• 14675475 284
128_Mt_pz5 (+) MtChr7 (BPs)	50801.57	5	• 5080432 285
129_Mt_pz5 (+) MtChr2 (BPs)	4788961	14	47892.36 290
130_Mt_pz5 (+) MtChr6 (BPs)	16973673	5	16973946 289
131_Mt_pz5 (-) MtChr3 (BPs)	273412	16	273141
132_Mt_pz5 (-) MtChr7 (BPs)	11166176	5	- 11165905 278
133_Mt_pz5 (-) MtChr5 (BPs)	6298587	16	6296317
134_Mt_pz5 (-) MtChr5 (BPs)	26231117	2	- 26230847 276
135_Mt_pz5 (-) MtChr7 (BPs)	559215	17	289
136_Mt_pz5 (-) MtChr7 (BPs)	4903283	16	4903016
137_Mt_pz5 (-) MtChr5 (BPs)	6876686	1 152 113	6876419 292
138_Mt_pz5 (-) MtChr5 (BPs)	17505191	13	- 17504925 282
139_Mt_pz5 (+) MtChr2 (BPs)	15523695	4	- 15523961 271
140_Mt_pz5 (+) MtChr2 (BPs)	6311490	26	6311755 292

1200 1500 1800 (Base Pairs)

141_Mt_pz5 (-) MtChr7 (BPs)	22371758	5 • 22371494 285
142_Mt_pz5 (-) MtChr5 (BPs)	11315686	4 113154 267
143_Mt_pz5 (+) MtChr3 (BPs)	1054264	12
144_Mt_pz5 (-) MtChr5 (BPs)	3946210	5
145_Mt_pz5 (-) MtChr3 (BPs)	22866834	16 - 22866572 286
146_Mt_pz5 (-) MtChr1 (BPs)	10006894	5
147_Mt_pz5 (-) MtChr1 (BPs)	12875740	2 1287547 263
148_Mt_pz5 (-) MtChr4 (BPs)	41060940	5 41060679 289
149_Mt_pz5 (-) MtChr8 (BPs)	22532128	16 - 22531.86 278
150_Mt_pz5 (-) MtChr2 (BPs)	19291.34	
151_Mt_pz5 (-) MtChr4 (BPs)	15576734	5 232 15576477 186 289
152_Mt_pz5 (-) MtChr8 (BPs)	1784319	1 191 1784065 155 293
153_Mt_pz5 (-) MtChr5 (BPs)	7806451	16 - 7806199 271
154_Mt_pz5 (+) MtChr5 (BPs)	1777516	3 1777765 253
155_Mt_pz5 (+) MtChr5 (BPs)	17114666	16 1711491 270
156_Mt_pz5 (-) MtChr7 (BPs)	31.380812	2 31.38056 250
157_Mt_pz5 (-) MtChr7 (BPs)	15419249	40 1541900 289
158_Mt_pz5 (-) MtChr6 (BPs)	11355912	40 11.35566 289
159_Mt_pz5 (-) MtChr4 (BPs)	22372496	40 22.372244 289
160_Mt_pz5 (-) MtChr3 (BPs)	12113324	40

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						(Base Pairs)
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		-
161_Mt_pz5 (-) MtChr8 (BPs)	5742335	40 5742089 289
162_Mt_pz5 (+) MtChr8 (BPs)	14824596	40
163_Mt_pz5 (-) MtChr2 (BPs)	10634945	40
164_Mt_pz5 (+) MtChr2 (BPs)	28633360	40
165_Mt_pz5 (+) MtChr3 (BPs)	35591768	4 183 35592013 140 292
166_Mt_pz5 (+) MtChr8 (BPs)	25883618	40
167_Mt_pz5 (+) MtChr8 (BPs)	2085464	40
168_Mt_pz5 (+) MtChr5 (BPs)	39044686	40
169_Mt_pz5 (-) MtChr1 (BPs)	288741.02	41
170_Mt_pz5 (-) MtChr1 (BPs)	25667566	16 2566733 259
171_Mt_pz5 (+) MtChr4 (BPs)	28577097	40
172_Mt_pz5 (-) MtChr4 (BPs)	28526018	40
173_Mt_pz5 (-) MtChr7 (BPs)	14476723	40
174_Mt_pz5 (-) MtChr6 (BPs)	3660851	54
175_Mt_pz5 (-) MtChr6 (BPs)	13072499	5 112 65 293
176_Mt_pz5 (+) MtChr7 (BPs)	4354545	5 435478 243
177_Mt_pz5 (+) MtChr5 (BPs)	2521217	40
178_Mt_pz5 (+) MtChr3 (BPs)	41.346201	54 413464 293
179_Mt_pz5 (+) MtChr3 (BPs)	26694985	58 2569521 252
180_Mt_pz5 (+) MtChr7 (BPs)	1961745	40

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181_Mt_pz5 (-) MtChr1 (BPs)	15302268	43	15302035 290
182_Mt_pz5 (+) MtChr8 (BPs)	8086670	54	289
183_Mt_pz5 (-) AC233577 (BPs)	216363	54	2161.32
184_Mt_pz5 (+) MtChr3 (BPs)	8268601	54	82688.32 289
185_Mt_pz5 (-) MtChr3 (BPs)	41.460487	54	4146025
186_Mt_pz5 (-) MtChr7 (BPs)	12622418	54	12622187
187_Mt_pz5 (+) MtChr8 (BPs)	6435605	54	6435836
188_Mt_pz5 (+) MtChr5 (BPs)	6122938	54	6123169
189_Mt_pz5 (+) MtChr2 (BPs)	13434853	54	1343508
190_Mt_pz5 (+) MtChr1 (BPs)	22952655	2	2295288
191_Mt_pz5 (+) MtChr1 (BPs)	5398454	54	5398685
192_Mt_pz5 (-) MtChr1 (BPs)	17182668	54	1718243
193_Mt_pz5 (-) MtChr4 (BPs)	32279497	54	32279256
194_Mt_pz5 (-) MtChr7 (BPs)	16774572	55	1677434 289
195_Mt_pz5 (+) MtChr5 (BPs)	3822879	52	- 3823109 284
196_Mt_pz5 (-) MtChr4 (BPs)	10634651	54	1063442
197_Mt_pz5 (+) MtChr5 (BPs)	13585035	54	• 1.358520 285
198_Mt_pz5 (-) MtChr2 (BPs)	11627861	55	1162763
199_Mt_pz5 (-) MtChr5 (BPs)	24293719	54	2429349
200_Mt_pz5 (-) MtChr5 (BPs)	10817946	59	1081772

o	300	600	900	1200	1500	1800 (Base Pairs)
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201_Mt_pz5 (-) MtChr5 (BPs)	38534555	56
202_Mt_pz5 (-) MtChr4 (BPs)	36455792	60
203_Mt_pz5 (-) MtChr7 (BPs)	1690829	40
204_Mt_pz5 (+) MtChr1 (BPs)	4317982	62
205_Mt_pz5 (+) MtChr2 (BPs)	1755325	5 1755546 228
206_Mt_pz5 (-) AC225518 (BPs)	115179	5 114959 227
207_Mt_pz5 (+) MtChr7 (BPs)	8403188	54
208_Mt_pz5 (+) MtChr7 (BPs)	8467646	54 8467863 271
209_Mt_pz5(+) MtChr6 (BPs)	14773151	1 14773364
210_Mt_pz5 (-) MtChr7 (BPs)	10153417	40
211_Mt_pz5 (-) MtChr2 (BPs)	947378	16 947167 228
212_Mt_pz5 (-) MtChr4 (BPs)	23864458	2 23864247
213_Mt_pz5 (+) MtChr5 (BPs)	30642188	76 30642396 288
214_Mt_pz5 (+) MtChr7 (BPs)	26512332	1 26512538 207
215_Mt_pz5 (+) MtChr4 (BPs)	38160047	62
216_Mt_pz5 (+) AC202568 (BPs)	31505	85
217_Mt_pz5 (+) MtChr2 (BPs)	1476372	1 214 214
218_Mt_pz5 (-) MtChr4 (BPs)	41061204	2 164 41061007 81 289