

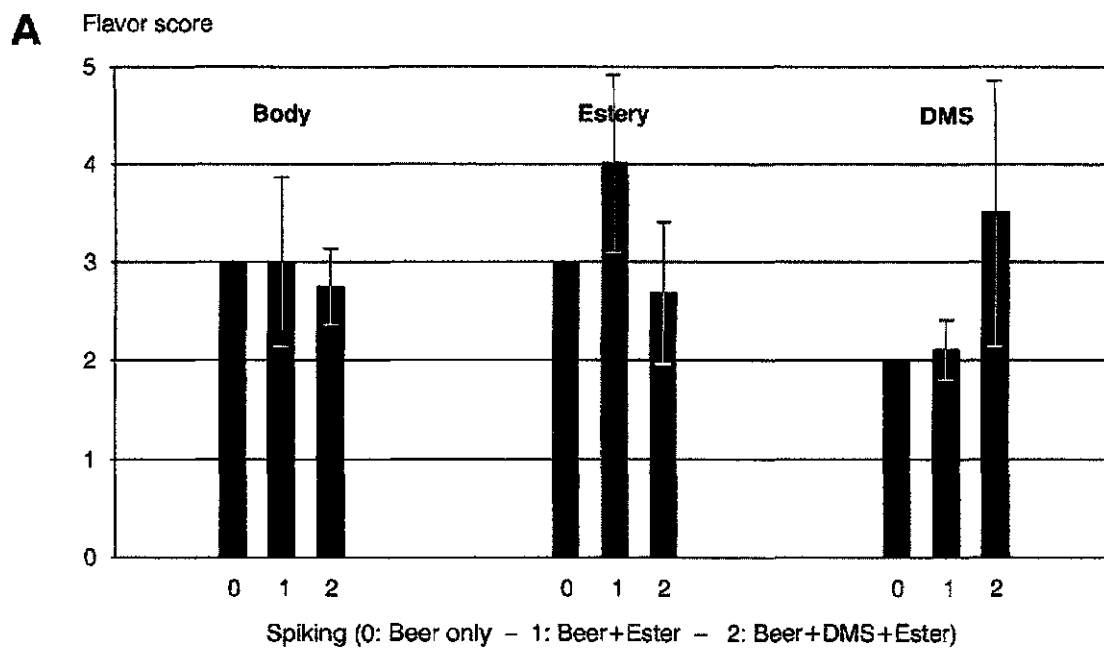
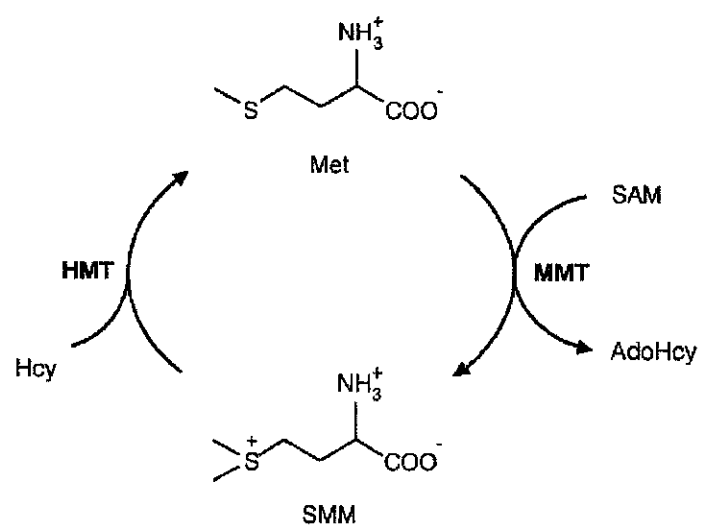


FIG. 1

B**FIG. 1**

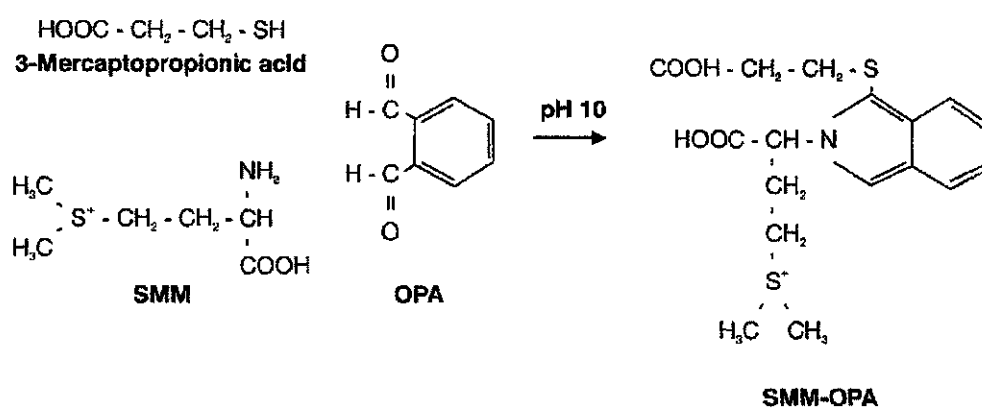


FIG. 2

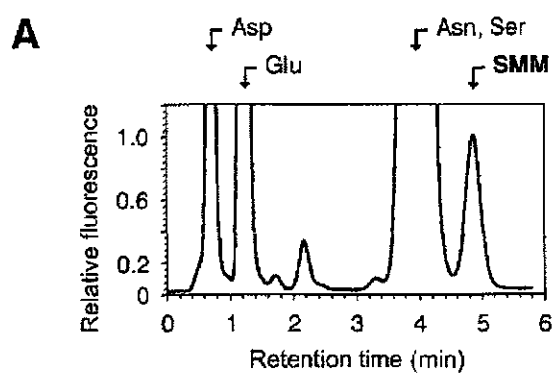


FIG. 3

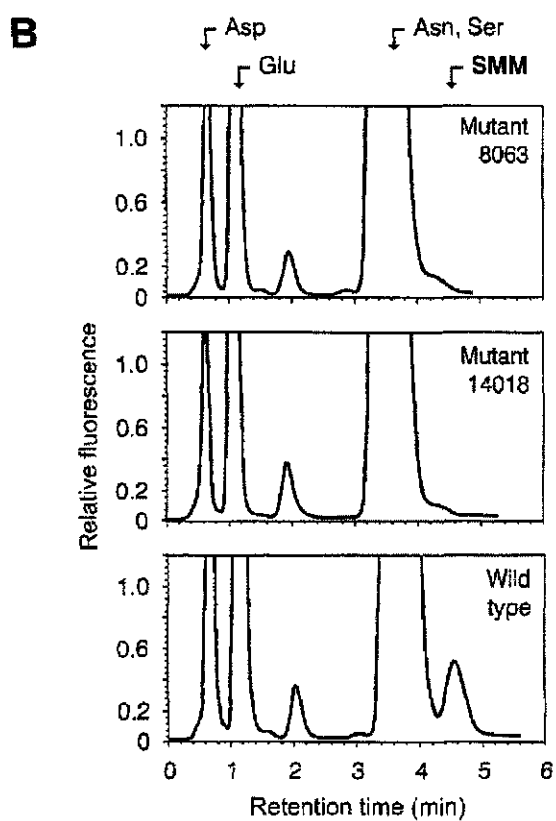


FIG. 3

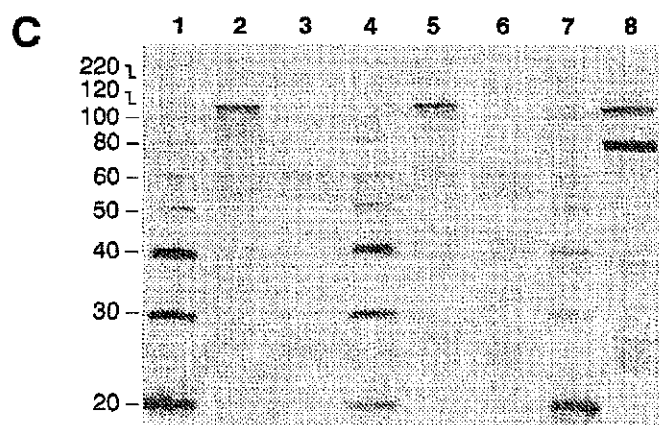


FIG. 3

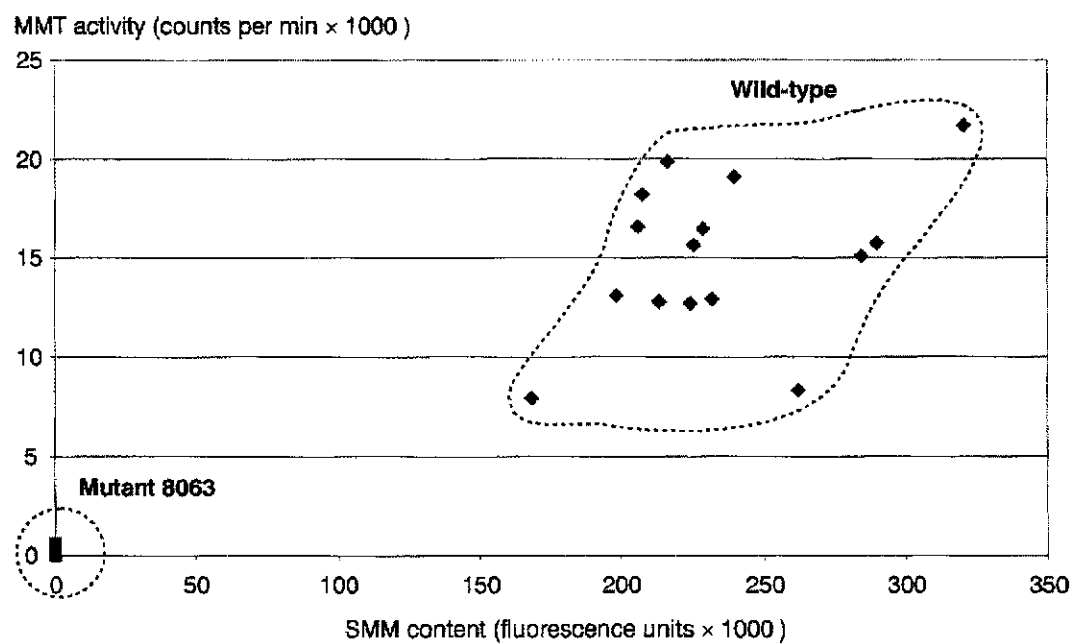


FIG. 4

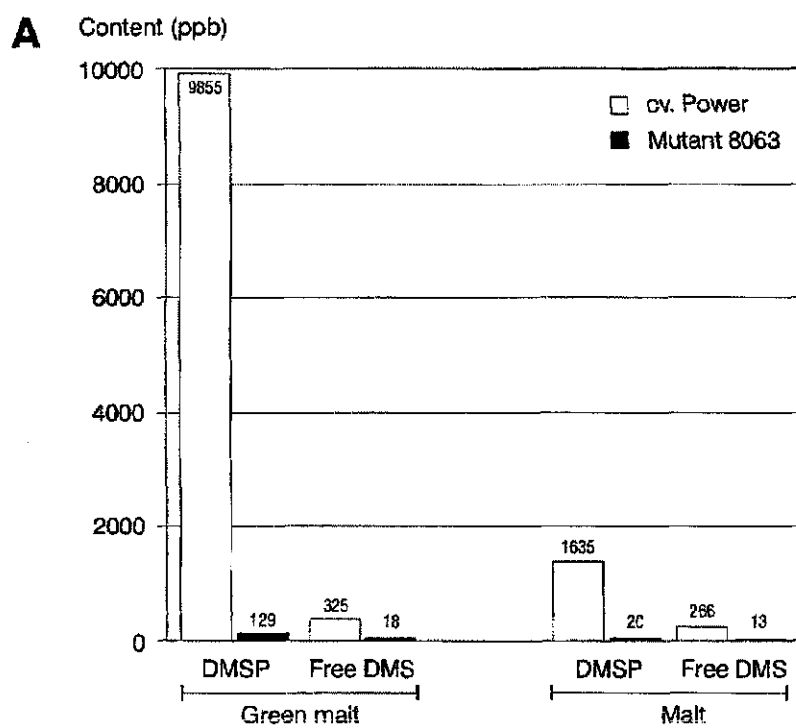


FIG. 5

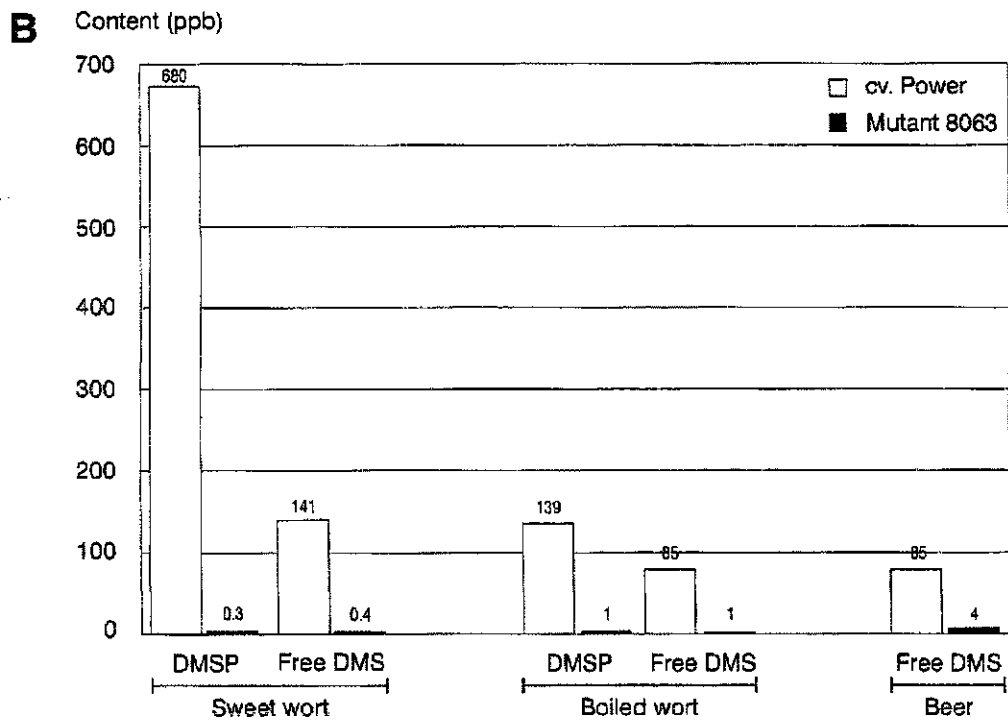


FIG. 5

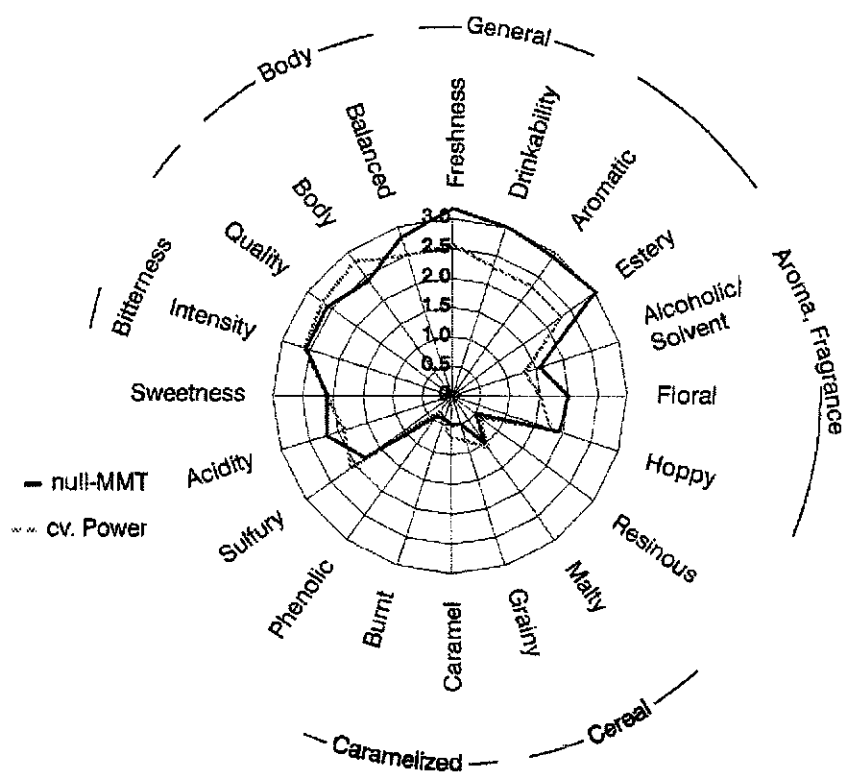
A

FIG. 6

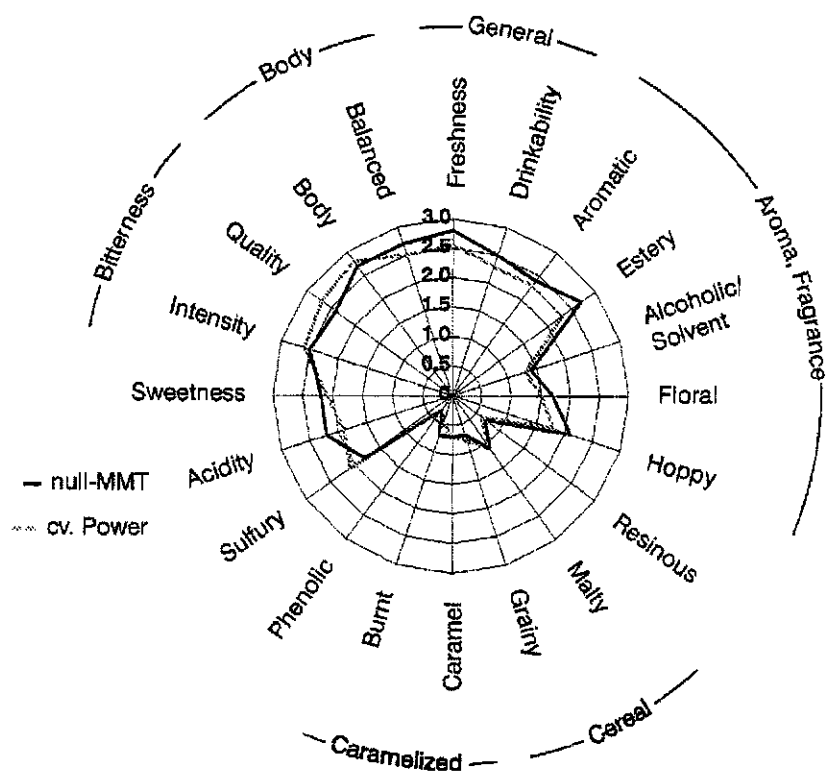
B

FIG. 6

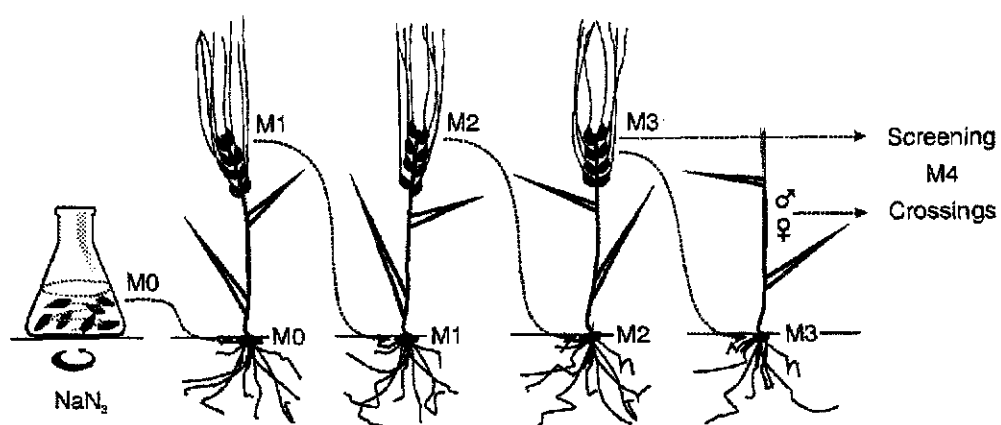


FIG. 7

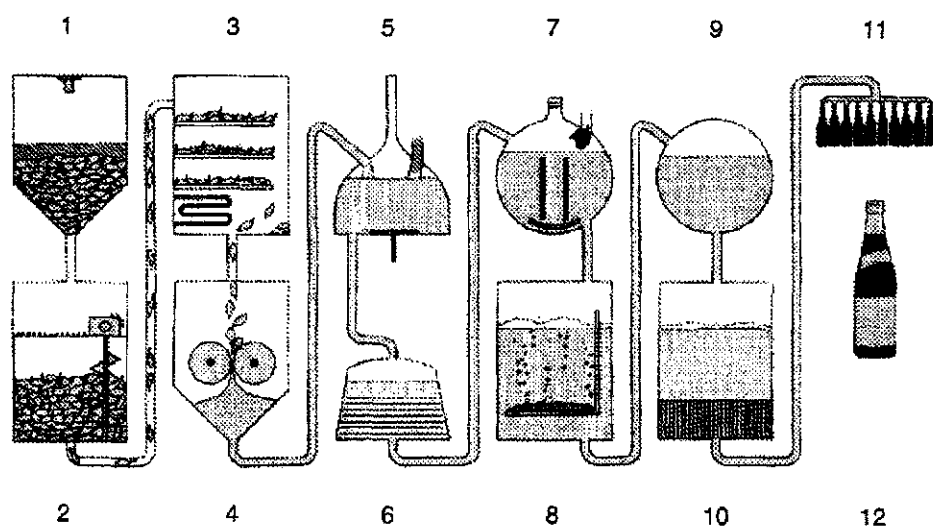


FIG. 8

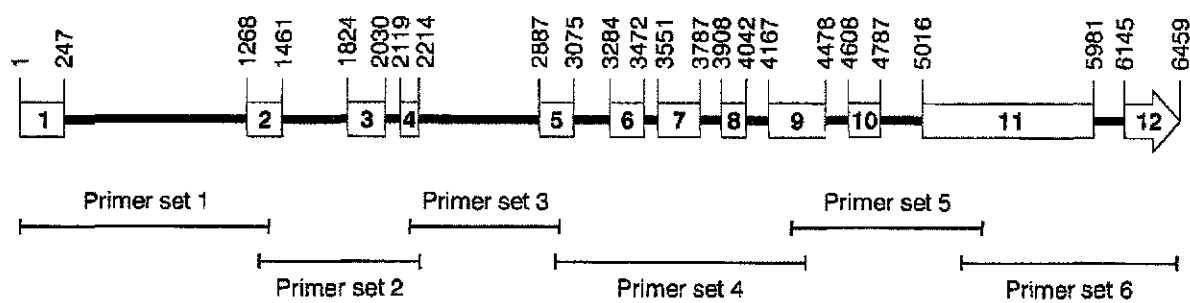


FIG. 9

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1 ATGCTCCGCGCGCGGACGTGGAAGGCTTCTGGCGCGTGCAGGCGTCGGCGAC 80
1 M A A A A G D V E A F L A A C Q A S G D 20
61 GCGCGGTACGCGCGCGCAAGGCGTGTGGAAGGCGTGCAGGCGCGCGCGCGCGC 120
21 A A Y G A A K A V L E R L E A P A T R A 40
121 GAGCGCAGCGCGCTCTCGCGCGCGTGCAGCGCGCTTCCCGCGCGCGCGCGCGCG 180
41 E A R R L L L G A V R R R F A A G G P A A 60
161 GCGCTCGAGTGTTCGCGCGCTTCCACTTCCGATCCACGACGTGTCTCGACCGCGAC 240
61 G L E C F R T F H F R I H D V V L D P H 80
241 CTCGAAGGATTCGAGCAAGAAAGAGCTAACAATGATGAGATACCCAGCATTTCATT 300
61 L Q G F Q Q R K K L T M M E I P S I F I 100
301 CCAAGAGCTGTCTTCACTTCTACGAGGCTCTCAACCGCATCCAGATTCATCTTC 360
101 P E D M S F T F Y E G L N R H P D S I F 120
361 ABBGATAAGACAGTAGCAGAGCTGGGATGTGGCAATGGTTGGATATCCATTGCATTGCA 420
121 R D K T V A E L G C G N G W I S I A E A 140
421 GAAAAGTGGTCCCTTCGAAGGTTTATGGTCTGGATATAACCCAAGAGCTATCAAGATT 480
141 E K W C P S K V Y G L D I N P R A I K I 160
481 GCATGGATAAACCCTTACTTGAATGCACAGCAGGATGGTCTCCCAATCTATGATGCG 540
161 A W I N L Y L N A L D D D G L P I Y D A 180
541 GAGGGGAAAACATTGCTTGACAGAGTCAATTCATGAATCTGATCTCTTTCTTACTGT 600
181 E G K T L L D R V E F Y E S D L L S Y C 200
601 AGAGATAACAAGATAGAACTTGATCAGATTGTGGATGCAACACAGATTCTTAACCCG 660
201 R D N K I E L D R I V G C I P Q I L N P 220
661 AATCCAGAGGCAATGTCAAGATGTAACTGAAATTCAGGTGAGGAGTTCTTGTACTCG 720
221 N P E A M S K I V T E N S S E E F L Y S 240
721 TTGAGCAACTACTGTCTCTCCAGGTTTGTGTAGGAGCAATTTGGCTCGGTTGATT 780
241 L S N Y C A L Q G F V E D Q F G L G L I 260
781 GCTCGGCTGTGGAAGAAGGATATCTGTGATAAAGCCTAGTGGTCTTATGGTATCAAC 840
261 A R A V E E G I S V I K P S G L M V F N 280
841 ATGGAGCGCGCGCAGGACAGGCTGTGTGTGAGCGCTATTTCTACGCGGTGGATTTGGC 900
281 M G G R P G Q G V C E R L F L R R S F R 300
901 ATCAATAAGCTCTGCGAAACAAAATTAAGCAGGCTGCTGACAGACATCTCGCTTTA 960
301 I N K L W Q T K I M Q A A D T D I S A L 320
961 GTTGAAATGAGAAAATAGCCGACATCGCTTCAGTCTTATGGATCTTGTGGGAT 1020
321 V E I E K N S R H R F E F F M D L V G D 340
1021 CAGCCTGTGTGCGCGCAGCATGGGCATACATGAATCTGTGGCGCAGTTTCACAT 1080
341 Q P V C A R T A W A Y M X S G G R I S H 360

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FIG. 10

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1081 GCTTTGCTGTGTATAGCTGTCAACTTCGCCAGCCCAACCAAGTGAAGAAATATTTGAG 1140
361 A L S V Y S C Q L R Q P N Q V K K I F E 380
1141 TTCCTTAAGAGAGGATTCCATGAAGTCAGCAGCTCCCTGSAATTTGTCTTTUATGATGAT 1200
381 F L K D G F H E V S S S L D L S F D D D 400
1201 TCTGTTGCTGATGAAGAAATTCCTTTCTAGCATACTAGCTAGTTTCTTGCAAGAGAAT 1260
401 S V A D E K I P F L A Y L A S F L Q E N 420
1261 AAGTCTAATCCTTTGTGAGCCTCCAGCTGATGTTTAAATTTCCGGAATCTTGTGTGGA 1320
421 K S N F C E P P A G G L N F R N L V A G 440
1321 TTTATGAAGAGTTACCAAGACATCCATTAACTGCTGATAAAGTTGTTGTTGCCATCC 1380
441 F M K S Y H H I P L T P D N V V V F P S 460
1381 CGTCTGTTGCAATCGAAATGCTCTTCGGTTGTTCTCACTGCACTTCAATTTGTTGAC 1440
461 R A V A I E N A L R L F S P G L A I V D 480
1441 GAACACCTAACCAGACACTTGCCCAAGCAATGGTTAACATCTTTAGCAATTGAGGAAGT 1500
481 E H L T R H L P K Q W L T S L A I E E S 500
1501 AACCATGCTAAAGATACAGTAAGTGAATGCAAGCAGCAGCAATGAGATTTGCTGATT 1560
501 N H A K D T V T V I E A P R D S D L L I 520
1561 GAGTTGATCAGGAAGTGAAGCCTCAGGTTGTTGTTACTGCACTGCTCAGTTTGAAGCT 1620
521 E L I R K L K P Q V V V T Q M A Q F E A 540
1621 ATCAGCAGTGTGCTTTCGTGAACCTTATTAAGTGAACGAAGATGTTGTTGCCGATTA 1680
541 I T S A A F V N L L S V T K D V G S R L 560
1681 TTAAGATATTTTCAAGACATCTGGAATTTGCTAGTCTGCCAAGCTCAATGCTGATTG 1740
561 L L D I S E H L E L S S L P S S N Q V L 580
1741 AAATATCTTGTGCGAAGAGCCTGCTTCACATGCGCTATATTGTGTGGCTTATTTAAG 1800
581 K Y L A G K T L P S H A A I L C G L Y K 600
1801 AATCAGGTTTATCTGATCTGGAAGTTGCTTTGCTATCTGTGAAGATCCAACTGTTAT 1860
601 N Q V Y S D L E V A F A I S E D P T V Y 620
1861 AAGSCATTGTACAAACTATTGAGCTATTGGAAGGACATACCTTCTGTGATCAGCCAGAC 1920
621 K A L S Q T I E L L E Q H T B V I S Q H 640
1921 TATTATGTTGTCTTTTCCATGAGCTGCTGCAATTTCAAATTTGTTGACCGGATCCADAA 1980
641 Y Y G C L F H E L L A F Q I G D R H P Q 660
1981 CAAGAGAGAGAACCTGAGAAATGATATCTAAGGAGATGATAGGTTTTCAGTTTCAAGTTCAGCT 2040
661 Q E R E P A E V I S K E N I G F S S S A 680
2041 ATGTCCACCCAGAGGAGCTGAGTTTTCGTTCTGTTCCATGGAATCCGCTGTGATA 2100
681 M S T I E G A E F F V P G S M E S G V I 700
2101 CATATGATCTGACCGCAGCTTCTTGCCAGTACCTTCTGCAATAACGCTCCATTTTC 2160
701 H M D L D R S F L P V P S A V N A S I F 720
2161 GAAAGTTTGTGTCAGAACATCACTGATTCYGAACCGATGTCGCTTCAGCATTCAG 2220
721 E S F V R Q N I T D S E T D V R S S I Q 740

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FIG. 10 - continued

2221 CAGCTGTTGAAAGATAGCTATGCTTCTCAGCAGGCGGTGCTTCTGAAATTATACGGG 2280
741 Q L V K D S Y G F S A G G A S E I I Y G 760
2281 AACACCTGTCTCGGCTCTTCAACAAGCTTGTCTTTGCTGCAAGCAAGAGGGCACC 2340
761 N T C L A L F N K L V L C C M Q E Q G T 780
2341 TTGCTTTTCCCTTGGGAACCAAGGGCATTACGTCAACGACGAAAGTTGTGAATGCA 2400
781 L L F P L G T N G H Y V N A A K F V N A 800
2401 ACCACCTTGACTATTCCAAAGAGGAGATTCAAGCTTCAAGATCGAAGCAAGTGTCTA 2460
801 T T L T I P T K A D S G F K I E F S A L 820
2461 GCGGACACTAGAGAAAGGTGTCTCAGCGGTGGGTCTATATTTCTGCCCCACAATCAAC 2520
821 A D T L E K Y S Q P W V Y I S G P T I N 840
2521 CCTACTGCTTCTGTACAGTGAAGCAGATATAGCAGAGCTGCTTTCTGTCTGTGCGACA 2580
841 P T G F L Y S D D I A E L L S V C A T 860
2581 TACGAGCCAGGTTGGTGATAGATACCTCTCTCTGCTGCTGAGTTCCAAAGCCAGCGGC 2640
861 Y G A R V V I D T S S S G L E F Q A T G 880
2641 TGCAGCCAGTGGAAATTTGGAAGATGTCTTTCTAATGTCAAGTCTTCAAAGCCCTCGTTC 2700
881 C S D W N L E R C L S N V K G S K P S F 900
2701 TCCGTTGCTGCTCGGAGAGCTGTCTTTGAGCTGACCAAGCTGGGCTTGATTTCGGG 2760
901 S V V L L G E L S F E L T T A G L D F G 920
2761 TTTCTGATTATGAGCGACTGCTCTTGGTTGACACATTTTACAGTTTCCCAAGCTTGAGT 2820
921 F L I M S D S S L V D T F Y S F P S L S 940
2821 CGGCGACACAGCAGCTTGAAGTACAGTTTCAGGAAGCTGTTGGTCTTAAGAACGAGAAG 2880
941 R P H S T L K Y T F R K L L G L K N Q K 960
2881 GATCAGCATTTCTCTGATCTCATCTTGAAGCAGAAAGAGAGCTTGAAGAAATCGTCCGAC 2940
961 C Q H F S D L I L E Q K E T L K N R A D 980
2941 CAGTTGATCAAGACCTTGAAGCTGCGGCTGCGACGCTGTGGCTGOCATGGCGGATC 3000
981 Q L I K T L E S C Q W D A V G C H G G I 1000
3001 TCGATGCTTGCAAAACGAGCCCTACATTGGCAATCGCTCAAGGTGGACGGCTTTGAG 3060
1001 S M L A K P T A Y I G K S L K V D G F E 1020
3061 GCGAAGCTGGACAGCCACAACATGAGGGAAGCCCTCTCGAGTCCACCGGCTGTGATT 3120
1021 G K L D S H N M R E A L L R S T S L C I 1040
3121 AGCAGCAGCGGTTGACAGGGGTGCGGACTACTGCGCTTCAAGCTTTGCTCTGAGAGC 3180
1041 S S S G W T G V P D Y C R F S F A L E S 1060
3181 GSCGACTTCGACCGGCGATGAGTGCATGCGCGGTTTCAGGAGCTGCTCTTGGTGGC 3240
1061 G D F D R A M E C I A R F R E L V L G G 1080
3241 GGTGCTAAGGTGAATGTAACAATAG 1081
1081 G A K V N S S N *

FIG. 10 - continued

cv. Haruna Nijo	1	60
cv. Prestige	MAAAAGDVEAFLAAGGASGDAAYGAAKAVLERLEAPATRAEARRLGAVRRRFAAGGPAA	
cv. Haruna Nijo	61	120
cv. Prestige	GLECFRTFHFRIHDVVLDPHLGGFQGRKKLTMEIPSGIFIPEDWSFTFYEGLNRRHPOSIF	
cv. Haruna Nijo	121	180
cv. Prestige	RDKTVAELGGGNGWISIALAEKWCPSKVYGLDINPRKIKIHWINLYLNALDDGLPIYDA	
cv. Haruna Nijo	181	240
cv. Prestige	EGKTLDRVEFYESDLLSYCRONKIELDRIVGCIPOILNPNPEAMSKIIVTENSSEFLYS	
cv. Haruna Nijo	241	300
cv. Prestige	LSNYCALGGFVEDGFGGLIARAVEEGISVIKPSGLM/FNMGGRRPQGVGERLFLRGGFR	
cv. Haruna Nijo	301	360
cv. Prestige	INKLWGTKIMQADTDISALVEIEKNRRHREFFNDLVGDOPVCARTAWYMKSGGRISH	
cv. Haruna Nijo	361	420
cv. Prestige	ALSVYSCOLROPNOVKKIFEFLKGGFEVSSSLDLSFDODSVADEKIPFLAYLASFLQEN	
cv. Haruna Nijo	421	480
cv. Prestige	KSNFCEPPAGCLNFRNLVAGFMKSYHHTPLTPDNVVVFPRAVAIENALRLFSPGLAIVD	
cv. Haruna Nijo	481	540
cv. Prestige	ENLTHLPKQWLTSIAEESNHAKDTVTYIEAPRQSLIELIRKLKQVVTGMAQFEA	

FIG. 11

cv. Haruna Nijo	541	600
cv. Prestige	ITSAAFVNL SVTKDVGRLLLDISEHLESSLPSNGVLKYLAKTLP SHAAILOGLVK	
	ITSAAFVNL SVTKDVGRLLLDISEHLESSLPSNGVLKYLAKTLP SHAAILOGLVK	
cv. Haruna Nijo	601	660
cv. Prestige	NQVYSOLEVAFAISEDPVYKALSQTIELLEQHTSVISQHYGCLFHELLAFOIGDRHPO	
	NQVYSOLEVAFAISEDPVYKALSQTIELLEQHTSVISQHYGCLFHELLAFOIGDRHPO	
cv. Haruna Nijo	661	720
cv. Prestige	DEREPAEVI SKENIGFSSAMSTLEGAEFFVPGSME SGVIHMDLDRSFLPVPSAVNASIF	
	DEREPAEVI SKENIGFSSAMSTLEGAEFFVPGSME SGVIHMDLDRSFLPVPSAVNASIF	
cv. Haruna Nijo	721	780
cv. Prestige	ESFVRQNI TDSETDVRSSIQGLVKDSYGFSAQGA SEIYGN TCIALFNKL VLCCHDEQGT	
	ESFVRQNI TDSETDVRSSIQGLVKDSYGFSAQGA SEIYGN TCIALFNKL VLCCHDEQGT	
cv. Haruna Nijo	781	840
cv. Prestige	LLFPLGTNGHYVNAKFNATTLTIPTKADSGFKIEPSALADTLEKVSQPVVYISQPTIN	
	LLFPLGTNGHYVNAKFNATTLTIPTKADSGFKIEPSALADTLEKVSQPVVYISQPTIN	
cv. Haruna Nijo	841	900
cv. Prestige	PTQFLYSDDDIAELLSVCATYGARVVIDTSSSGLFQATGCSQWNLERCLSNVKSCKPBF	
	PTQFLYSDDDIAELLSVCATYGARVVIDTSSSGLFQATGCSQWNLERCLSNVKSCKPBF	
cv. Haruna Nijo	901	960
cv. Prestige	SVVLLGELSFELTTABLDGFLIMSDSSLVDTFYSFSLSRPHSTLYTFKLLGLKKNQK	
	SVVLLGELSFELTTABLDGFLIMSDSSLVDTFYSFSLSRPHSTLYTFKLLGLKKNQK	
cv. Haruna Nijo	961	1020
cv. Prestige	DQHFSDLI LEQKETLKNRADOLIKLESCQMDAVQCHGIGISMLAKPTAYIGKSLKVDGFE	
	DQHFSDLI LEQKETLKNRADOLIKLESCQMDAVQCHGIGISMLAKPTAYIGKSLKVDGFE	
cv. Haruna Nijo	1021	1080
cv. Prestige	GKLD SHMREALLRSTGLCISSSGWTGVPDYCRFSFAL ESGDFDAMECIARFRELVLGG	
	GKLD SHMREALLRSTGLCISSSGWTGVPDYCRFSFAL ESGDFDAMECIARFRELVLGG	
cv. Haruna Nijo	1081	
cv. Prestige	GAKVNGSN	
	GAKVNGSN	

FIG. 11 - continued

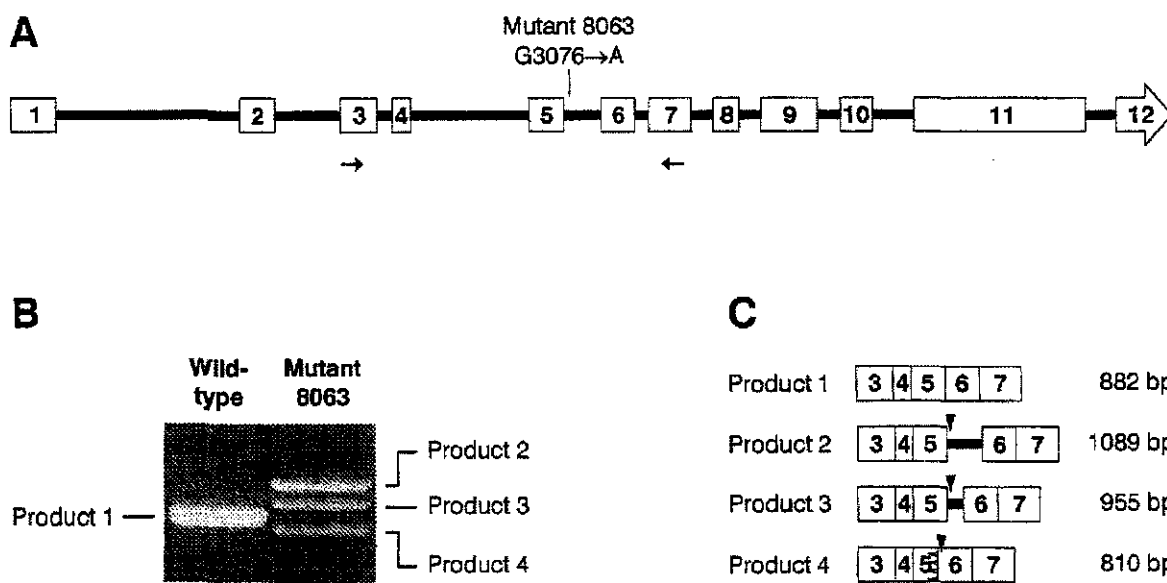
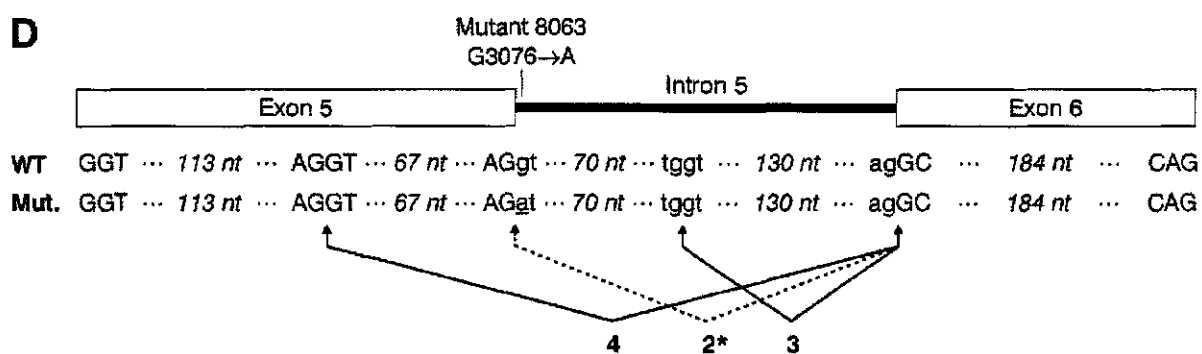


FIG. 12

D**E**

	5' Splice site					3' Splice site				
	-2	-1	:	1	2	-2	-1	:	1	2
<i>Base composition in percent</i>										
G	9	79		100	0	0	100		62	24
A	64	7		0	0	100	0		14	18
C	14	8		0	0	0	0		15	18
T	12	6		0	100	0	0		9	39
Consensus	A	G	:	G	T	A	G	:	G	T
Intron 5, Mutant 8063	A	G	:	G	T	A	G	:	G	C

FIG. 12

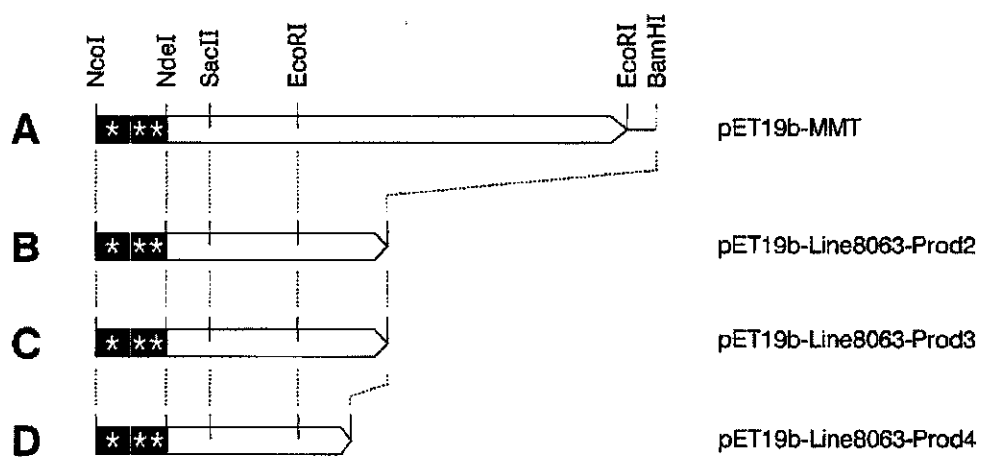


FIG. 13

E

			1	60
cv. Prestige	(1)		MAAAGGVPAFLAACA GT AAT GAAGAGLILN LATAATACAGRL LGAVERTHAAGGAA	
Line 8063, Product 2	(1)		MAAAGVMPAFAAGLAAAGAAAGAAAGLILN LATAATACAGRL LGAVERTHAAGGAA	
Line 8063, Product 3	(1)		MAAAGVMPAFLAAGCAAGAAAGAAAGLILN LATAATACAGRL LGAVERTHAAGGAA	
Line 8063, Product 4	(1)		MAAAGVCAFLAAGCAAGAAAGAAAGLILN LATAATACAGRL LGAVERTHAAGGAA	
			61	120
cv. Prestige	(61)		SLGGRTTFRIDKVLHFLVRFQRYAL LGGTSTLTHDWRKLYSLRRHLNLE	
Line 8063, Product 2	(61)		SLGGRTTFRIDKVLHFLVRFQRYAL LGGTSTLTHDWRKLYSLRRHLNLE	
Line 8063, Product 3	(61)		SLGGRTTFRIDKVLHFLVRFQRYAL LGGTSTLTHDWRKLYSLRRHLNLE	
Line 8063, Product 4	(61)		SLGGRTTFRIDKVLHFLVRFQRYAL LGGTSTLTHDWRKLYSLRRHLNLE	
			121	180
cv. Prestige	(121)		ROKVAELGGVGGTAAIA KGGGAGVGGTTPATATATLILNALGGGLPYDA	
Line 8063, Product 2	(121)		ROKVAELGGVGGTAAIA KGGGAGVGGTTPATATATLILNALGGGLPYDA	
Line 8063, Product 3	(121)		ROKVAELGGVGGTAAIA KGGGAGVGGTTPATATATLILNALGGGLPYDA	
Line 8063, Product 4	(121)		ROKVAELGGVGGTAAIA KGGGAGVGGTTPATATATLILNALGGGLPYDA	
			181	240
cv. Prestige	(181)		EGRTLLRFLPESGL LGGTSTLTHDWRKLYSLRRHLNLE	
Line 8063, Product 2	(181)		EGRTLLRFLPESGL LGGTSTLTHDWRKLYSLRRHLNLE	
Line 8063, Product 3	(181)		EGRTLLRFLPESGL LGGTSTLTHDWRKLYSLRRHLNLE	
Line 8063, Product 4	(181)		EGRTLLRFLPESGL LGGTSTLTHDWRKLYSLRRHLNLE	
			241	300
cv. Prestige	(241)		LSAGCAAGVPAFLAACA GT AAT GAAGAGLILN LATAATACAGRL LGAVERTHAAGGAA	
Line 8063, Product 2	(241)		LSAGCAAGVPAFLAACA GT AAT GAAGAGLILN LATAATACAGRL LGAVERTHAAGGAA	
Line 8063, Product 3	(241)		LSAGCAAGVPAFLAACA GT AAT GAAGAGLILN LATAATACAGRL LGAVERTHAAGGAA	
Line 8063, Product 4	(241)		LSAGCAAGVPAFLAACA GT AAT GAAGAGLILN LATAATACAGRL LGAVERTHAAGGAA	
			301	1088
cv. Prestige	(301)		TAALVATKAGATDTSALVETKNGMDLV-----NDSN	
Line 8063, Product 2	(301)		TAALVATKAGATDTSALVETKNGMDLV-----NDSN	
Line 8063, Product 3	(301)		TAALVATKAGATDTSALVETKNGMDLV-----NDSN	
Line 8063, Product 4	(290)		TAALVATKAGATDTSALVETKNGMDLV-----NDSN	

FIG. 13

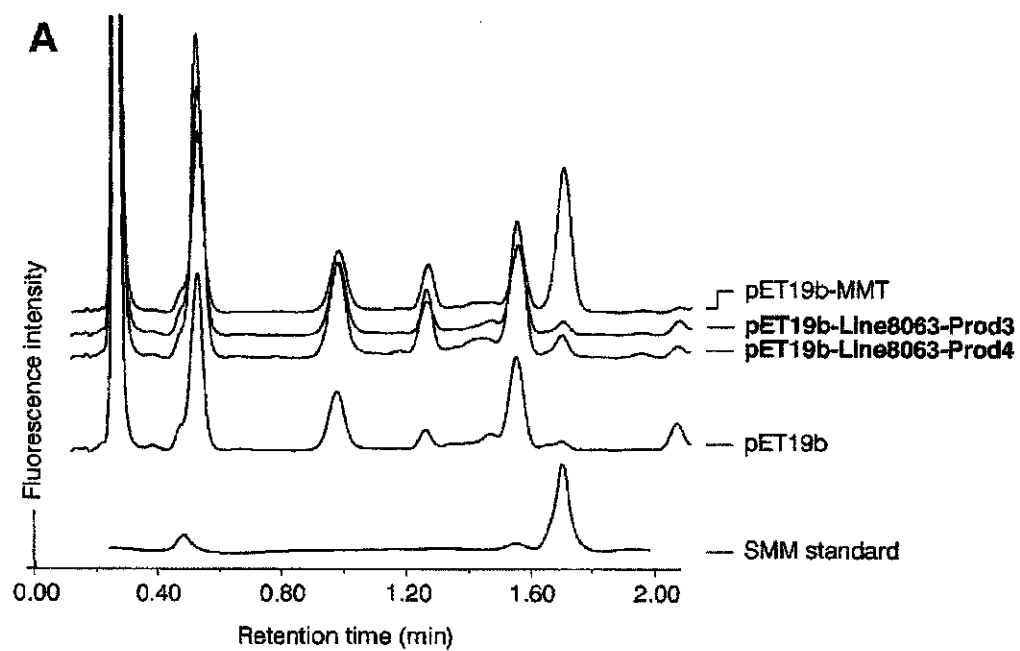


FIG. 14

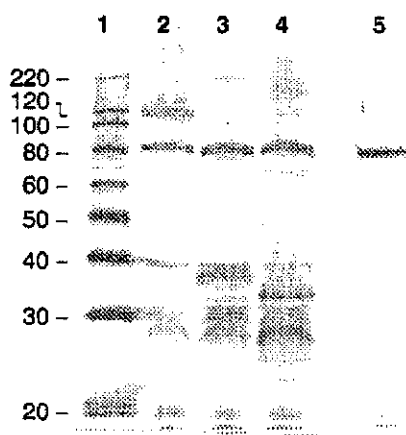
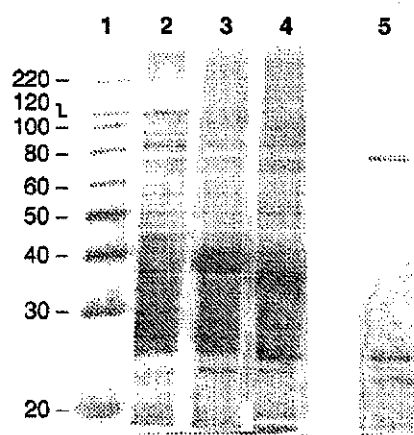
B**C**

FIG. 14

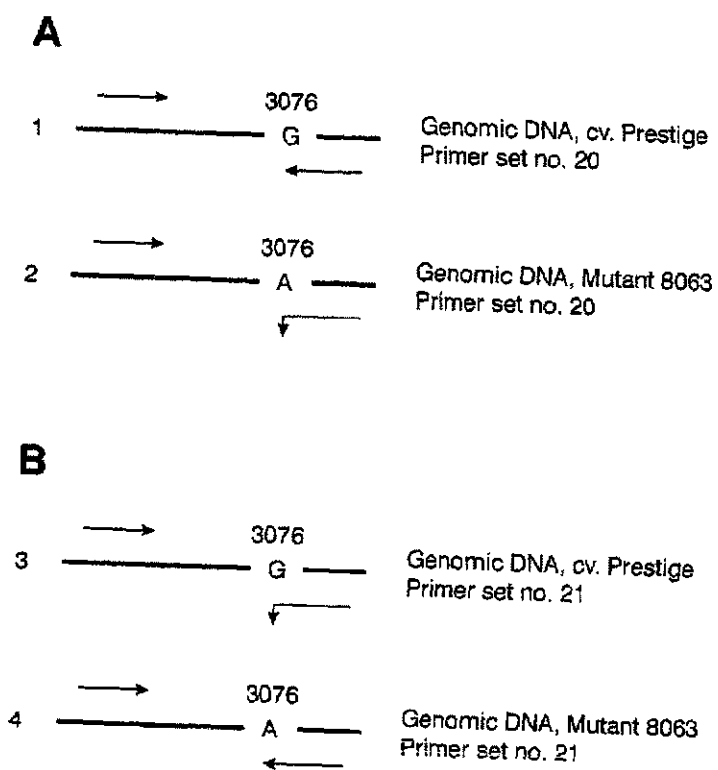


FIG. 15

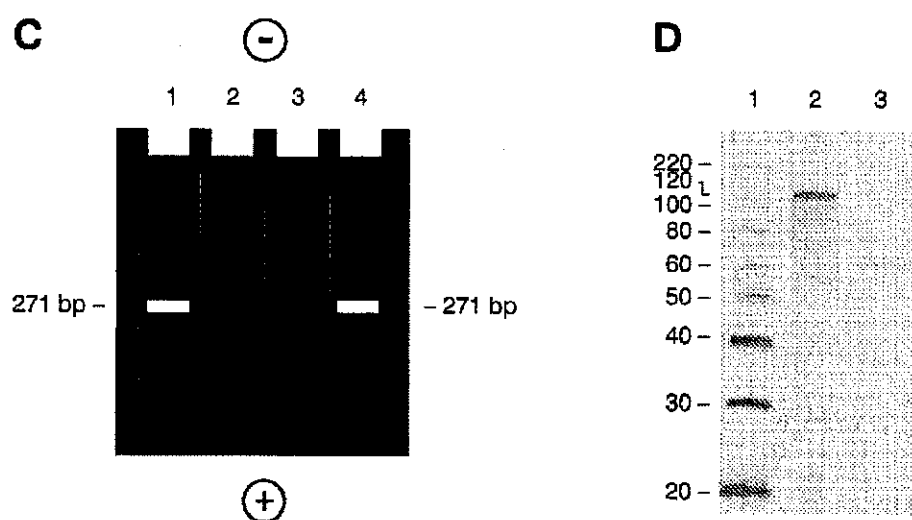


FIG. 15

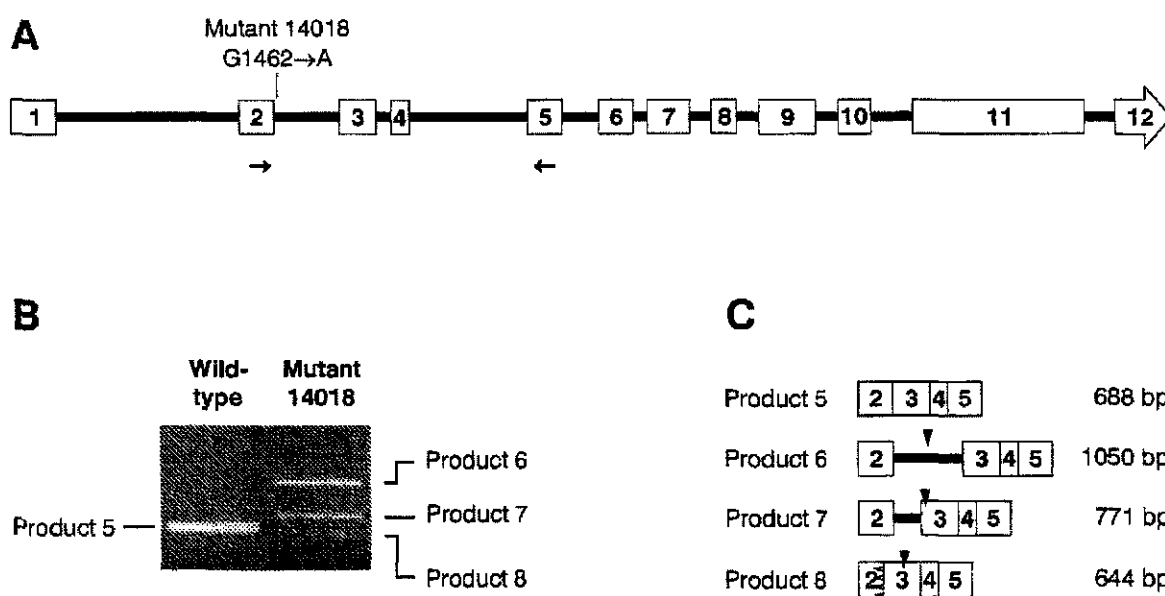
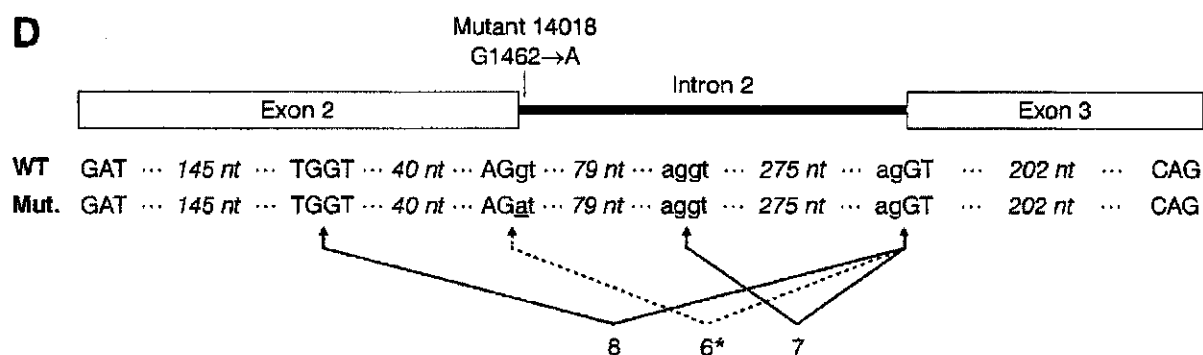


FIG. 16

D**E**

	5' Splice site					3' Splice site				
	-2	-1	:	1	2	-2	-1	:	1	2
<i>Base composition in percent</i>										
G	9	79		100	0	0	100		62	24
A	64	7		0	0	100	0		14	18
C	14	8		0	0	0	0		15	18
T	12	6		0	100	0	0		9	39
Consensus	A	G	:	G	T	A	G	:	G	T
Intron 2, Mutant 14018	A	G	:	G	T	A	G	:	G	C

FIG. 16

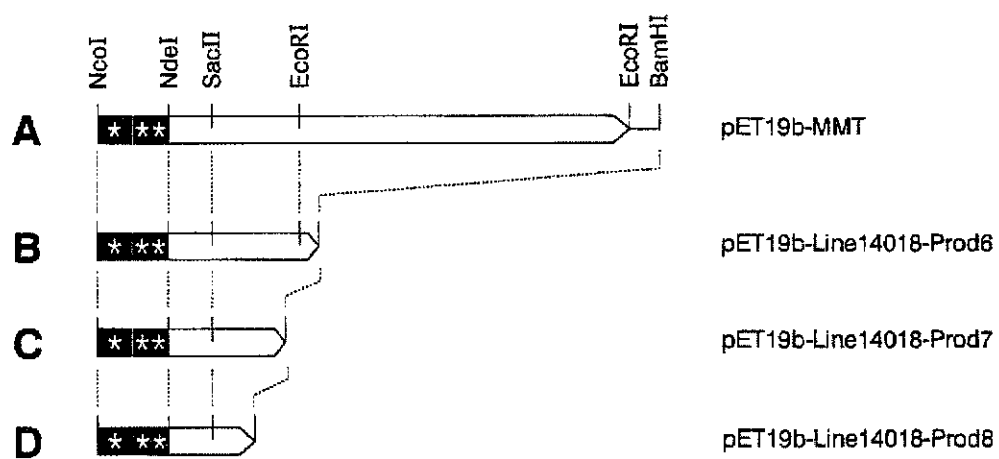


FIG. 17

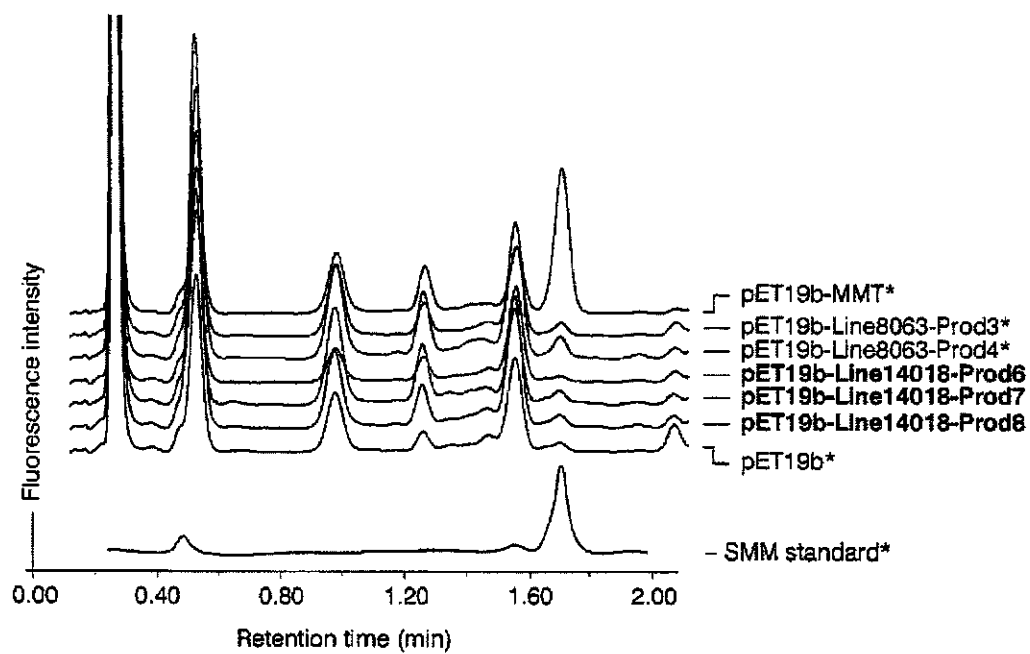
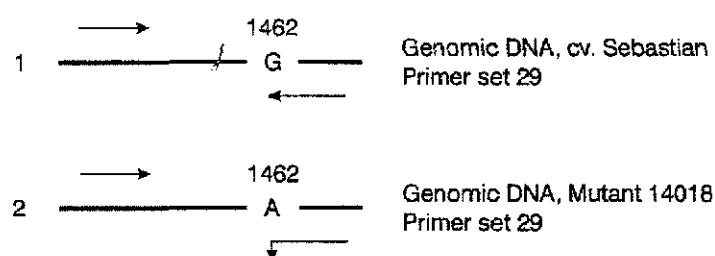
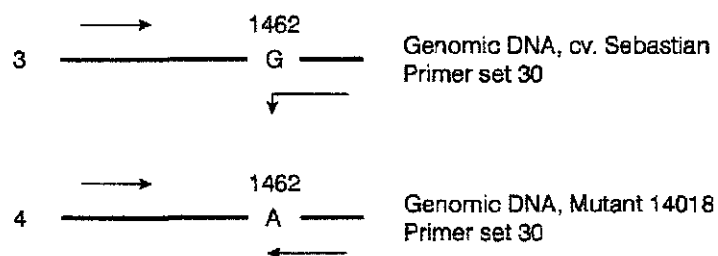


FIG. 18

A**B****FIG. 19**

