

5' tgcgcggttttcgggtgatgacgggtgaaaacctctgacacacatgcagctcccgagacgggtcacagcttgtct  
70  
o  
o  
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140  
o  
o  
o EcoRI EcoRV HpaI Acc65I KpnI SpeI  
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210  
o  
o MluI  
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280  
o  
o Dysferlin-Exon-9-deletion  
M L R V F I L Y A E N V H T P D T D I S D  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21  
o  
o  
o SacII  
5' tgectactgctccgcgggtgtttgcaggggtgaagaagagaaccaaaagtcatcaagaacagcgtgaaccct  
350  
o  
o Dysferlin-Exon-9-deletion  
A Y C S A V F A G V K K R T K V I K N S V N P  
22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44  
o  
o  
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420  
o  
o Dysferlin-Exon-9-deletion  
V W N E G F E W D L K G I P L D Q G S E L H V  
45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67  
o  
o  
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490  
o  
o Dysferlin-Exon-9-deletion  
V V K D H E T M G R N R F L G E A K V P L R E V  
68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91  
o  
o  
5' cctcgccacccttagtctgtccgcagcttcaatgccccctgctggacaccaagaagcagccacaggg  
560  
o  
o Dysferlin-Exon-9-deletion  
L A T P S L S A S F N A P L L D T K K Q P T G  
92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114

5' gctctgctgggtcctgcagggtgtcctacacacgcctgacctggagctgtgcccctgttcccgcctactc 630  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
Dysferlin-Exon-9-deletion  
A S L V L Q V S Y T P L P G A V P L F P P P T  
115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137

5' ctctggagccctccccgactctgcctgacctggatgtagtggcagacacaggaggagaggaagacacaga 700  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
Dysferlin-Exon-9-deletion  
P L E P S P T L P D L D V V A D T G G E E D T E  
138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161

5' ggaccaggggactcactggagatgaggcggagccattcctggatcaaagcggaggccccgggggctcccacc 770  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
Dysferlin-Exon-9-deletion  
D Q G L T G D E A E P F L D Q S G G P G A P T  
162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184

5' accccaaggaaactaccttcacgtcctccgccccactaccccgggatcaaaagaaagcgaagtgcgccta 840  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
Dysferlin-Exon-9-deletion  
T P R K L P S R P P P H Y P G I K R K R S A P  
185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207

XbaI  
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Dysferlin-Exon-9-deletion  
T S R K L L S D K P Q D F Q I R V Q V I E G R Q  
208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231

5' gctgccgggggtgaacatcaagcctgtgggtcaagggttaccgctgcagggcagaccaagcggacgcggatc 980  
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Dysferlin-Exon-9-deletion  
L P G V N I K P V V K V T A A G Q T K R T R I  
232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254

5' cacaagggaacagcccactcttcaatgagactcttttcttcaacttgtttgactctcctggggagctgt 1050  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
Dysferlin-Exon-9-deletion  
H K G N S P L F N E T L F F N L F D S P G E L  
255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277

5' ttgatgagcccatctttatcacgatggacgtgggcaccatttacagagagccccggcagcctatatctcag  
+  
Dysferlin-Exon-9-deletion  
o

Deletion  
F D E P I F I T M D V G T I Y R E P R H A Y L R  
278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301

5' gaagtggctgctgctctcagaccctgatgacttctctgctggggccagaggctacctgaaaacaagcctt  
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Dysferlin-Exon-9-deletion  
K W L L L S D P D D F S A G A R G Y L K T S L  
302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324

5' tgtgtgctggggcgctggggacgaagcgctcttgagagaaaagaccctctgaagacaaggaggacattg  
+  
Dysferlin-Exon-9-deletion  
C V L G P G D E A P L E R K D P S E D K E D I  
325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347

5' aaagcaacctgctccggcccacaggcgtagccctgcgaggagcccacttctgcctgaagggtcttcggggc  
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Dysferlin-Exon-9-deletion  
E S N L L R P T G V A L R G A H F C L K V F R A  
348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371

5' cgaggacttgccgcagatggacgatgccgtgatggacaacgtgaaacagatctttggcttcgagagtaac  
+  
Dysferlin-Exon-9-deletion  
E D L P Q M D D A V M D N V K Q I F G F E S N  
372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394

5' aagaagaacttggtggaccctttgtggaggtcagctttgcggggaaaatgctgtgcagcaagatcttgg  
+  
Dysferlin-Exon-9-deletion  
K K N L V D P F V E V S F A G K M L C S K I L  
395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417

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E K T A N P Q W N Q N I T L P A M F P S M C E K  
418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441

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+ + + + +  
Dysferlin-Exon-9-deletion  
M R I R I I D W D R L T H N D I V A T T Y L S  
442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464

atgtcgaaaatctctgcccttgaggagaaatagaagaggagcctgcaggtgctgtcaagccttcgaaag  
+ + + + + BstBI  
Dysferlin-Exon-9-deletion  
M S K I S A P G G E I E E E P A G A V K P S K  
465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487

cctcagacttggatgactacctgggcttcctccccacttttgggccctgctacatcaacctctatggcag  
+ + + + + Dysferlin-Exon-9-deletion  
A S D L D D Y L G F L P T F G P C Y I N L Y G S  
488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511

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P R E F T G F P D P Y T E L N T G K G E G V A  
512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534

tatcgtggccggcttctgctctccctggagaccaagctgggtggagcacagtgaacagaagggtggaggacc  
+ + + + + Bsal  
Dysferlin-Exon-9-deletion  
Y R G R L L L S L E T K L V E H S E Q K V E D  
535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557

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Dysferlin-Exon-9-deletion  
L P A D D I L R V E K Y L R R R K Y S L F A A F  
558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581

ctactcagccaccatgctgcaggatgtgggatgatgccatccagtttgagggtcagcatcggggaactacggg  
+ + + + + Dysferlin-Exon-9-deletion  
Y S A T M L Q D V D D A I Q F E V S I G N Y G  
582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604

5' acaagttcgcacatgacctgccctggccgttgccctaccactcagtcacagccgtgcagtctttagcggt  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
Dysferlin-Exon-9-deletion  
N K F D M T C L P L A S T T Q Y S R A V F D G  
605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627

5' gccactactactacctaaccctggggtaacgtgaaacctgtggtggtgctgtcatcctactgggaggacat  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
Dysferlin-Exon-9-deletion  
C H Y Y Y L P W G N V K P V V V L S S Y W E D I  
628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651

5' cagccatagaatcgagactcagaaccagctgcttgggattgctgaccggctggaagctggcctggagcag  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
Dysferlin-Exon-9-deletion  
S H R I E T Q N Q L L G I A D R L E A G L E Q  
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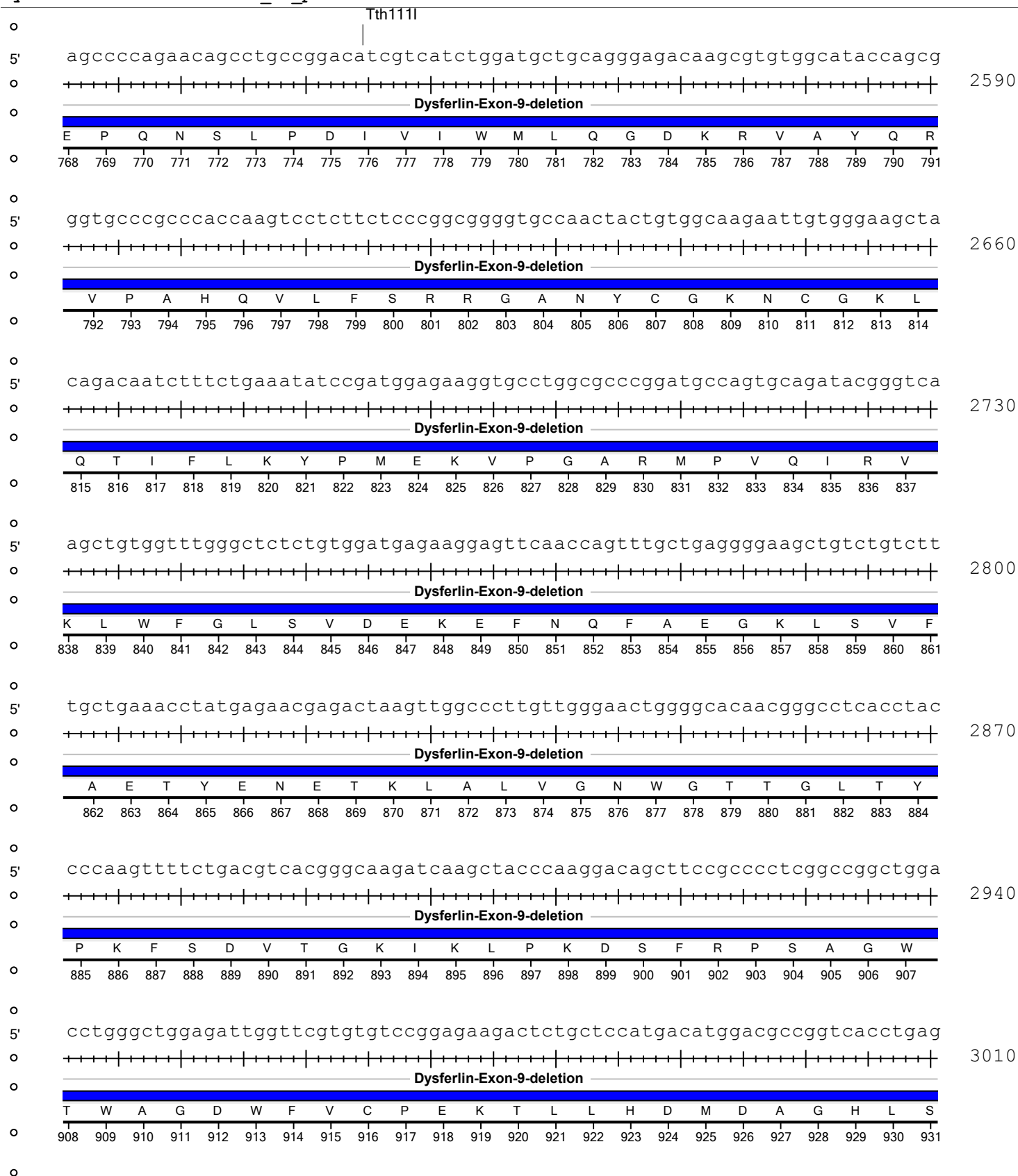
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Dysferlin-Exon-9-deletion  
V H L A L K A Q C S T E D V D S L V A Q L T D  
675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697

5' agctcatcgcaggctgcagccagcctctgggtgacatccatgagacaccctctgccaccacacctggacca  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
Dysferlin-Exon-9-deletion  
E L I A G C S Q P L G D I H E T P S A T H L D Q  
698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721

5' gtacctgtaccagctgcgcacccatcacctgagccaaatcactgaggctgccttggccctgaagctcggc  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
Dysferlin-Exon-9-deletion  
Y L Y Q L R T H H L S Q I T E A A L A L K L G  
722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744

5' cacagtgagctccctgcagctctggagcaggcggaggactggctcctgcgtctgcgtgccctggcagagg  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
Dysferlin-Exon-9-deletion  
H S E L P A A L E Q A E D W L L R L R A L A E  
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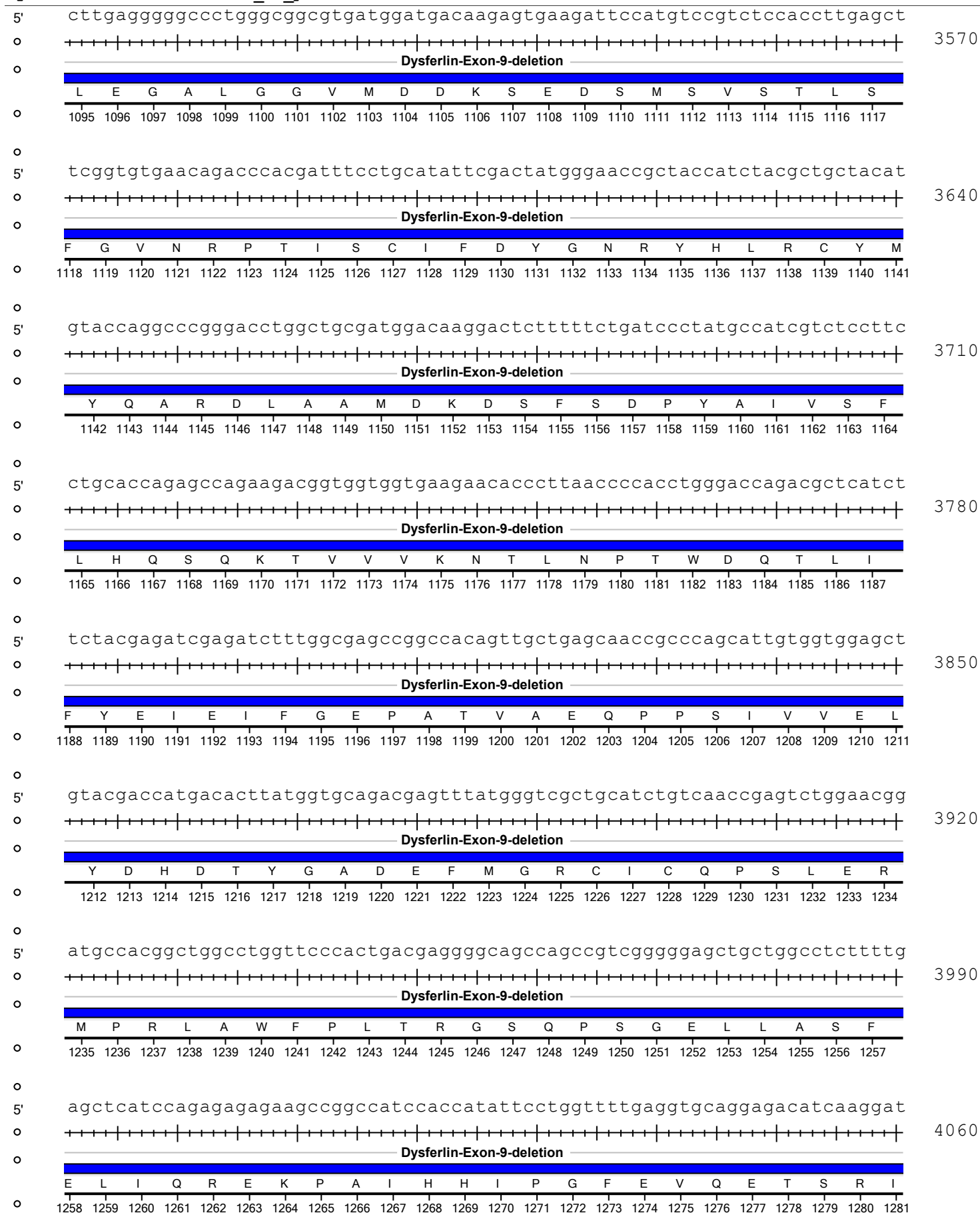
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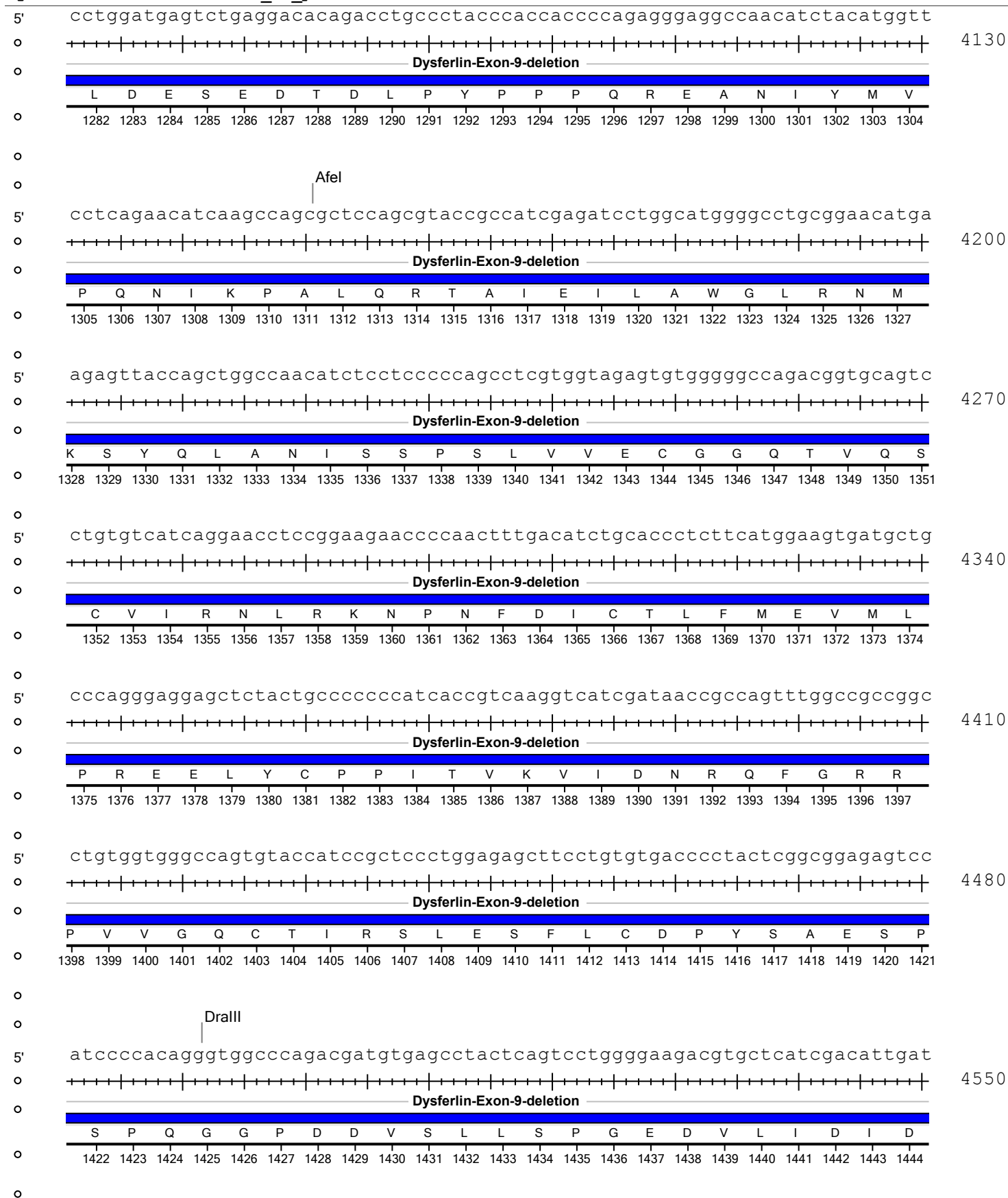
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 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
 Dysferlin-Exon-9-deletion  
 F V E E V F E N Q T R L P G G Q W I Y M S D N  
 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954  
 AleI  
 |  
 5'   
 tacaccgatgtgaacggggagaaggtgcttcccaaggatgacattgagtgcccaactgggctggaagtggg  
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
 Dysferlin-Exon-9-deletion  
 Y T D V N G E K V L P K D D I E C P L G W K W  
 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977  
 5'   
 aagatgaggaatggtccacagacctcaaccgggctgtcgatgagcaaggctgggagtatagcatcaccat  
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
 Dysferlin-Exon-9-deletion  
 E D E E W S T D L N R A V D E Q G W E Y S I T I  
 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001  
 5'   
 ccccccgagcgaagccgaagcactgggtccctgctgagaagatgtactacacacaccgacggcgggcgc  
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
 Dysferlin-Exon-9-deletion  
 P P E R K P K H W V P A E K M Y Y T H R R R R  
 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024  
 5'   
 tgggtgcgcctgcgcaggaggatctcagccaaatggaagcactgaaaaggcacaggcaggcggaggcgg  
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
 Dysferlin-Exon-9-deletion  
 W V R L R R R D L S Q M E A L K R H R Q A E A  
 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047  
 PspXI  
 |  
 XhoI  
 |  
 5'   
 agggcgagggctgggagtacgcctctctttttggctggaagtccacctcgagtaccgcaagacagatgc  
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
 Dysferlin-Exon-9-deletion  
 E G E G W E Y A S L F G W K F H L E Y R K T D A  
 1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071  
 5'   
 cttccgcgcgcgcgcgtggcgccgtcgcatggagccactggagaagacgggggctgcagctgtgtttgcc  
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
 Dysferlin-Exon-9-deletion  
 F R R R R W R R R M E P L E K T G P A A V F A  
 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090 1091 1092 1093 1094



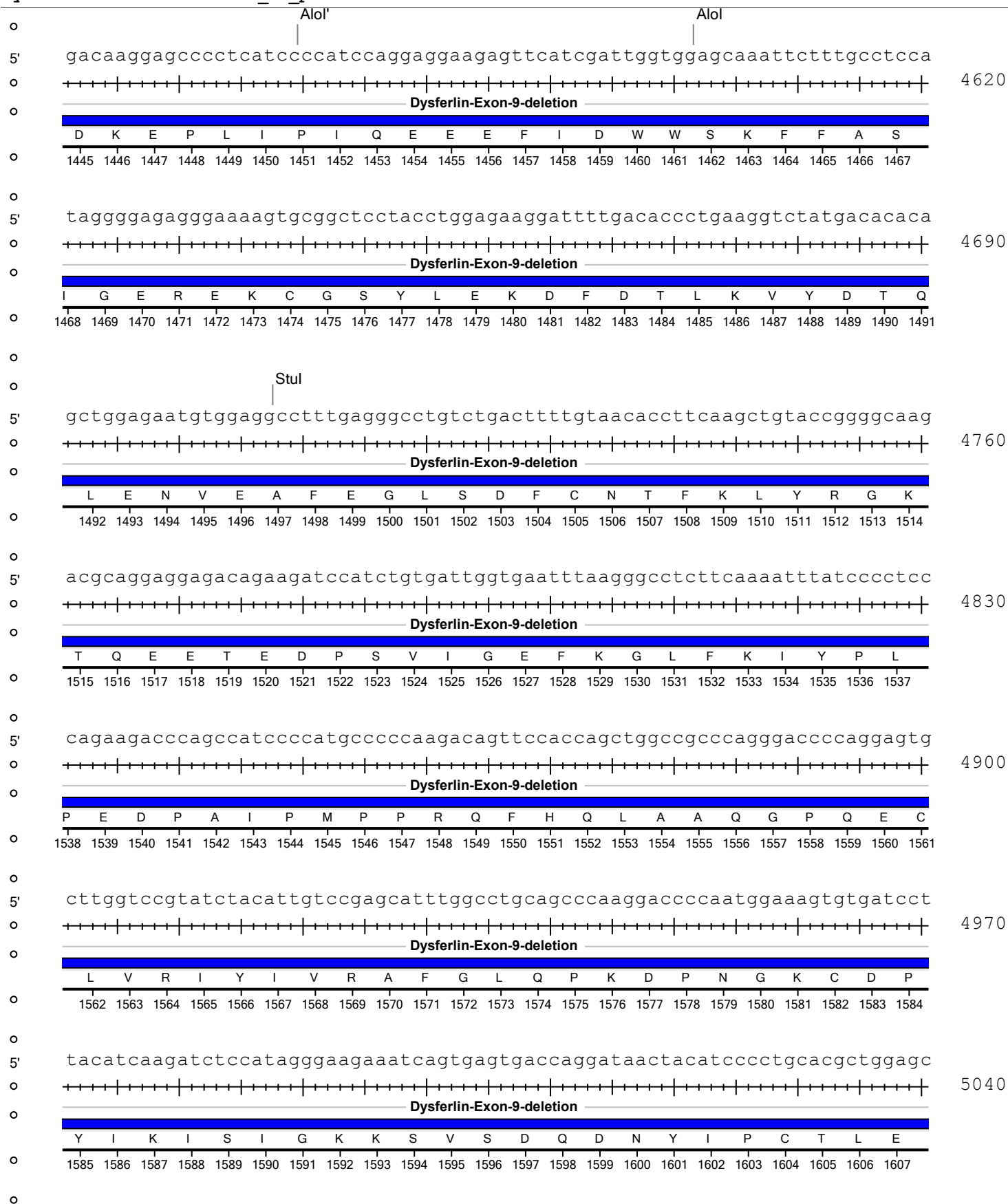
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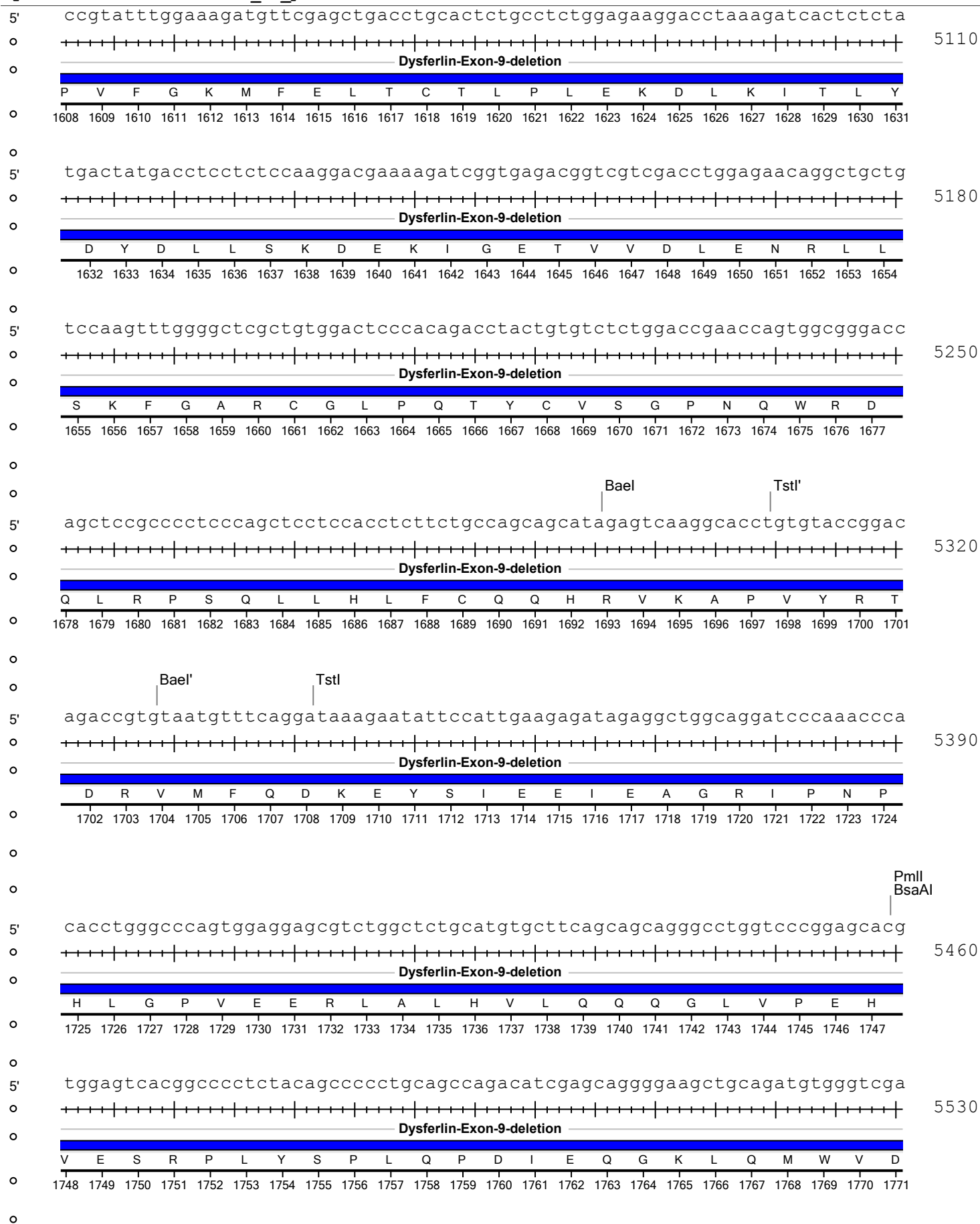
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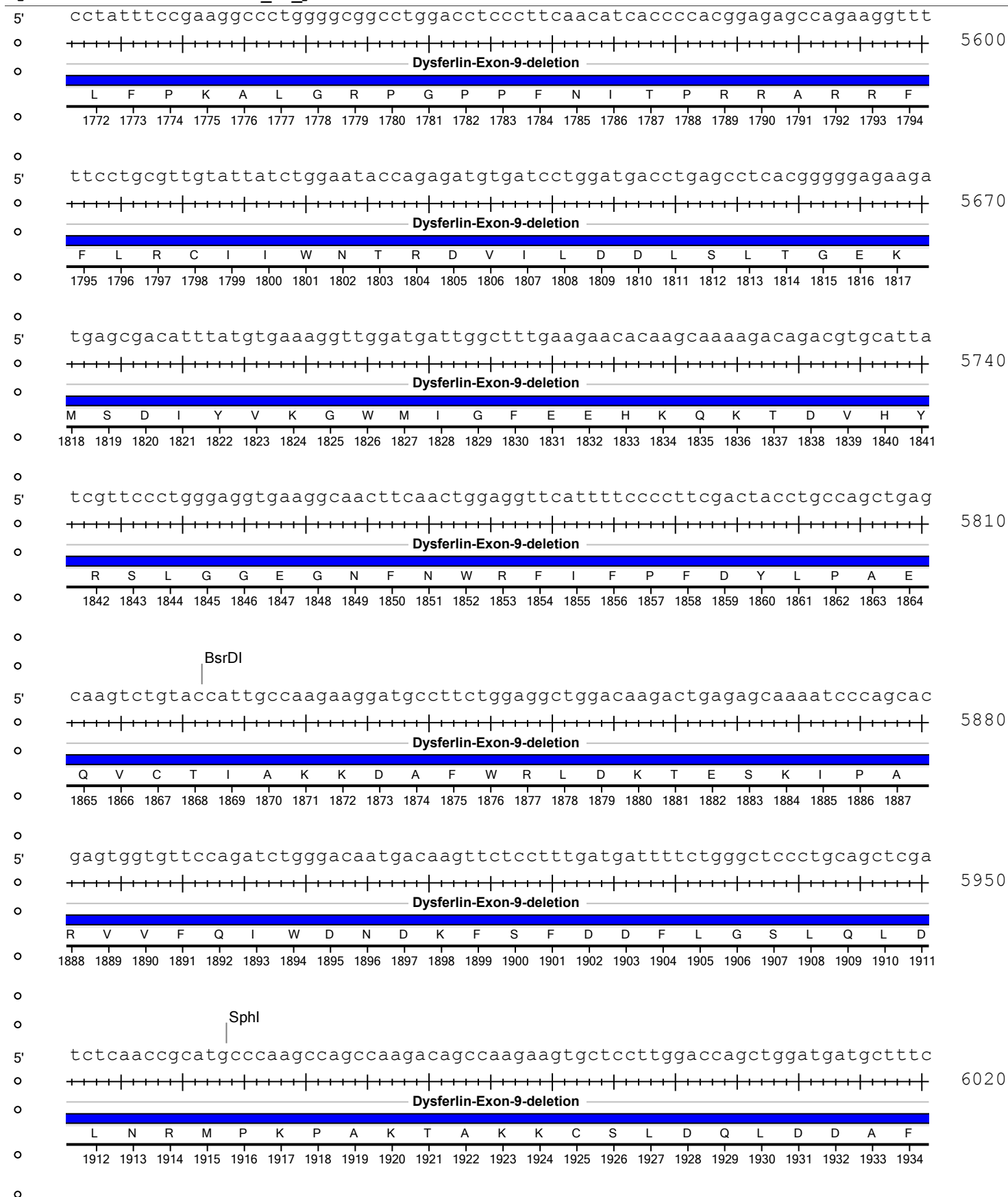
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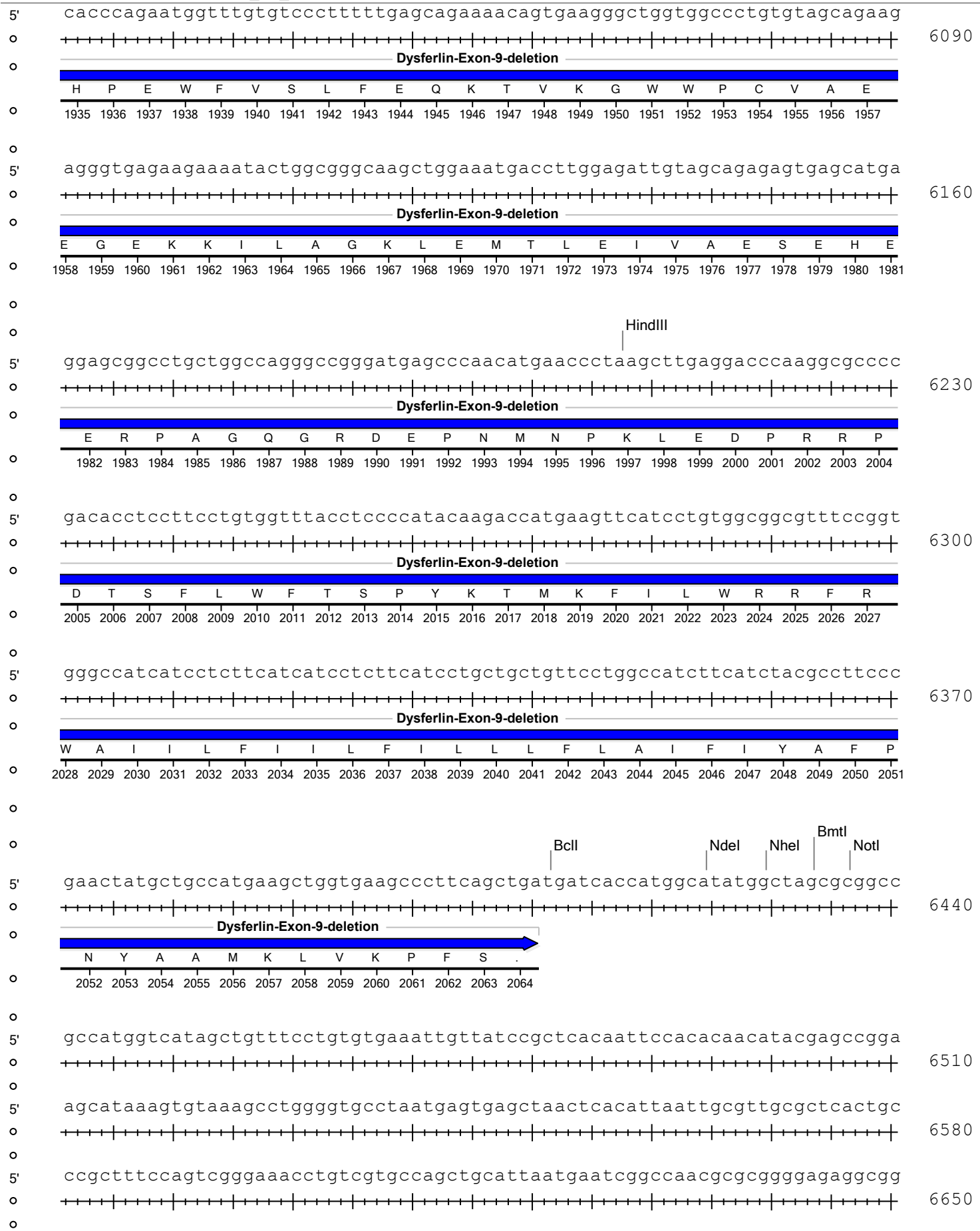
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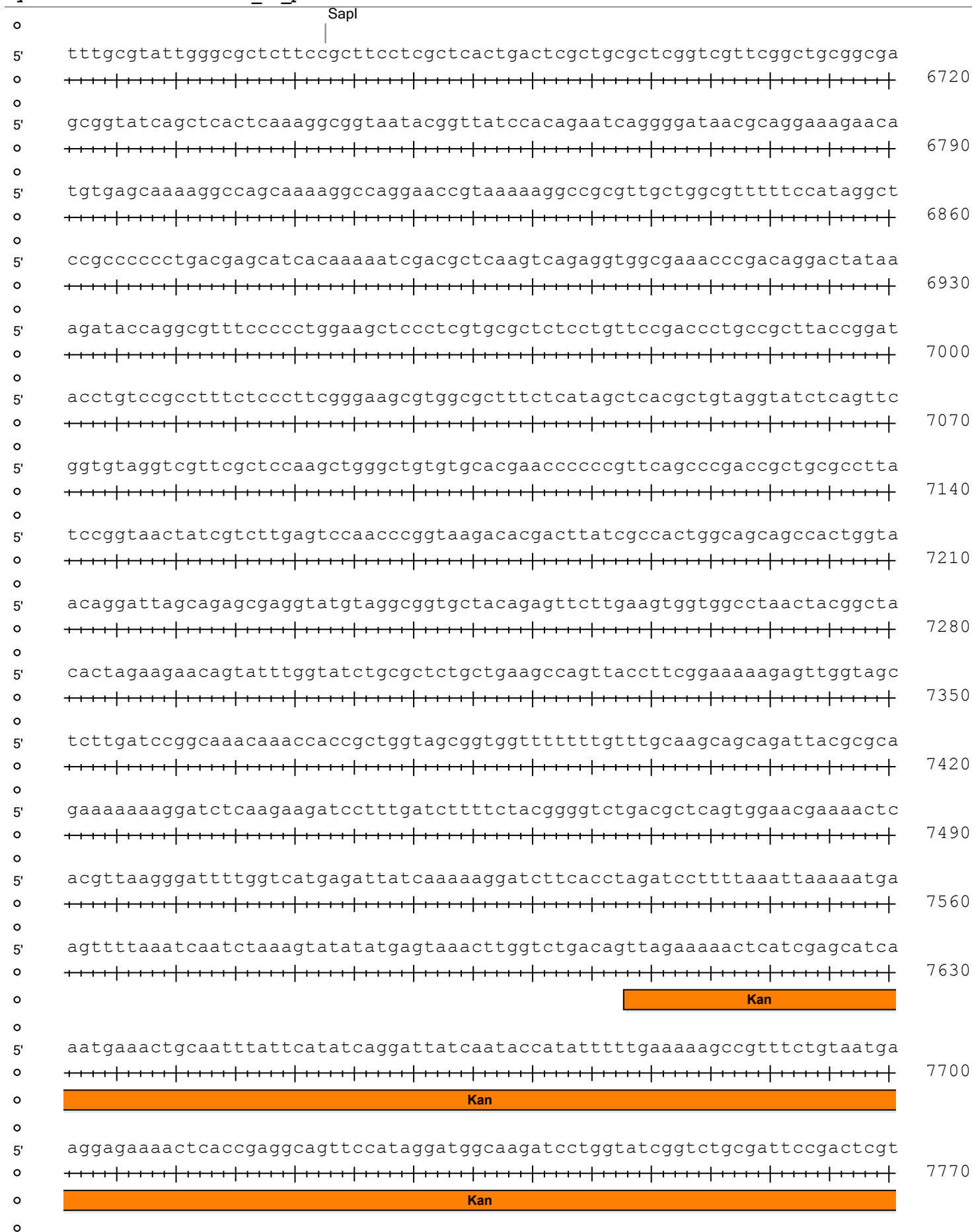
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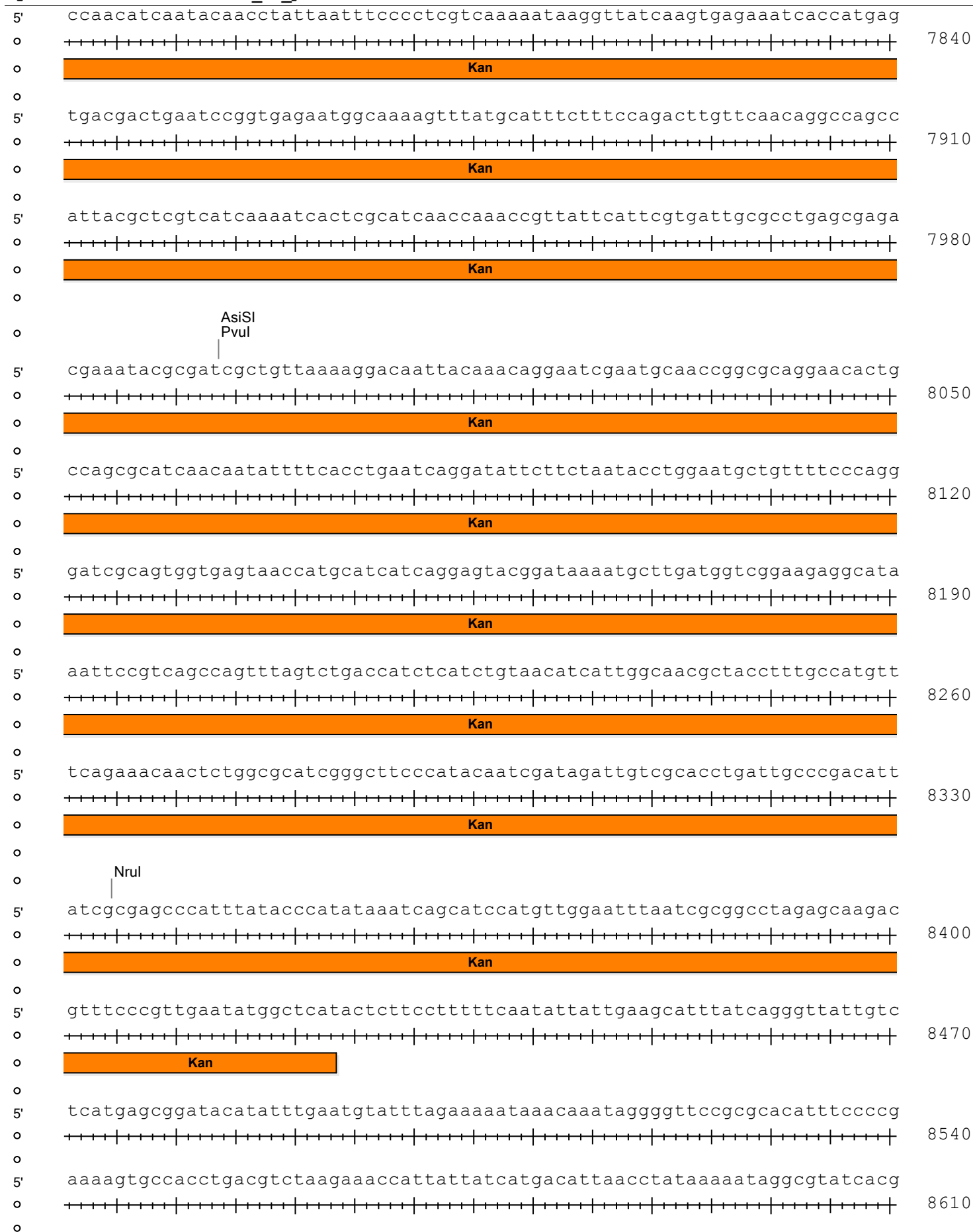
Dysferlin-Exon-9-deletion\_in\_pUC57-Kan



# Dysferlin-Exon-9-deletion\_in\_pUC57-Kan



# Dysferlin-Exon-9-deletion\_in\_pUC57-Kan





Dysferlin-Exon-9-deletion\_in\_pUC57-Kan

5'	aggccctttcgtc	
o	++++ ++++ +++	8623
o		