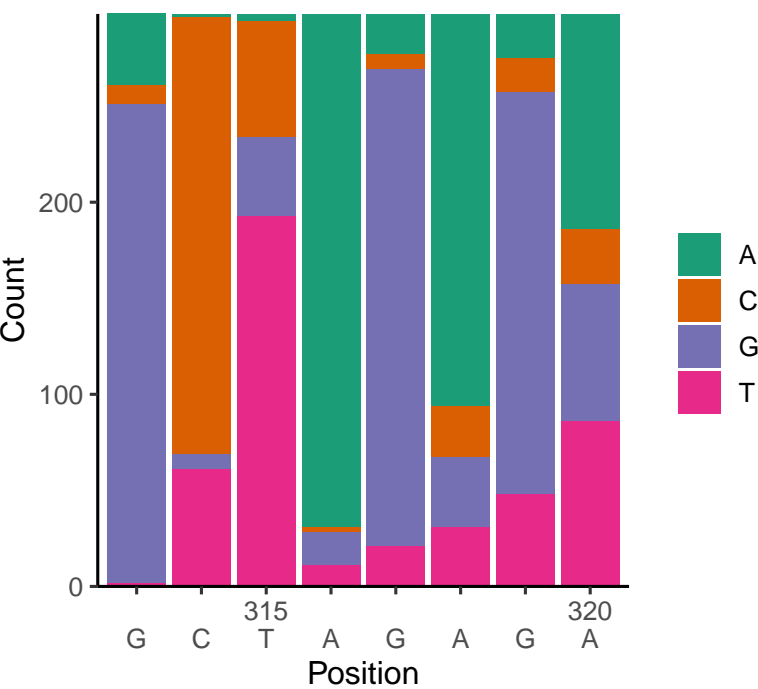
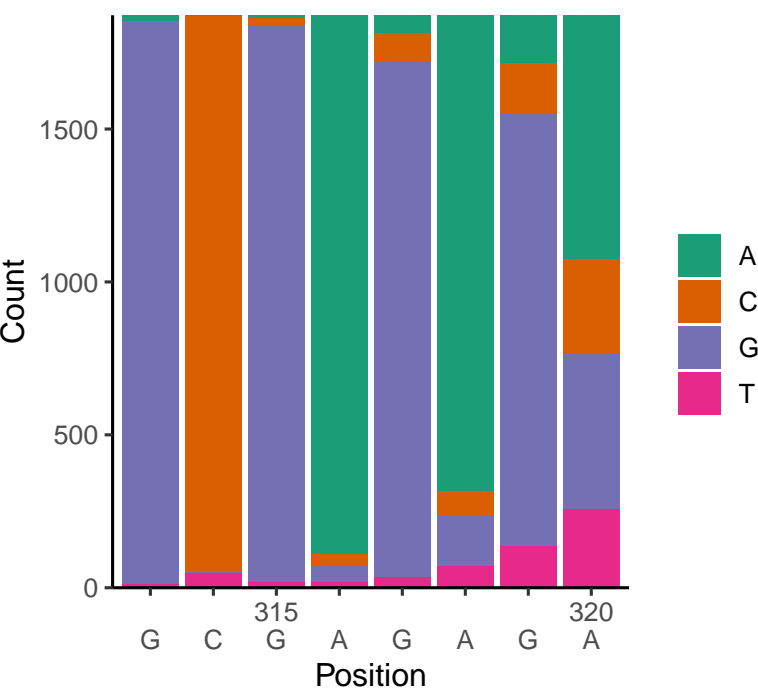


Gene IGHV3-72\*01\_T186C



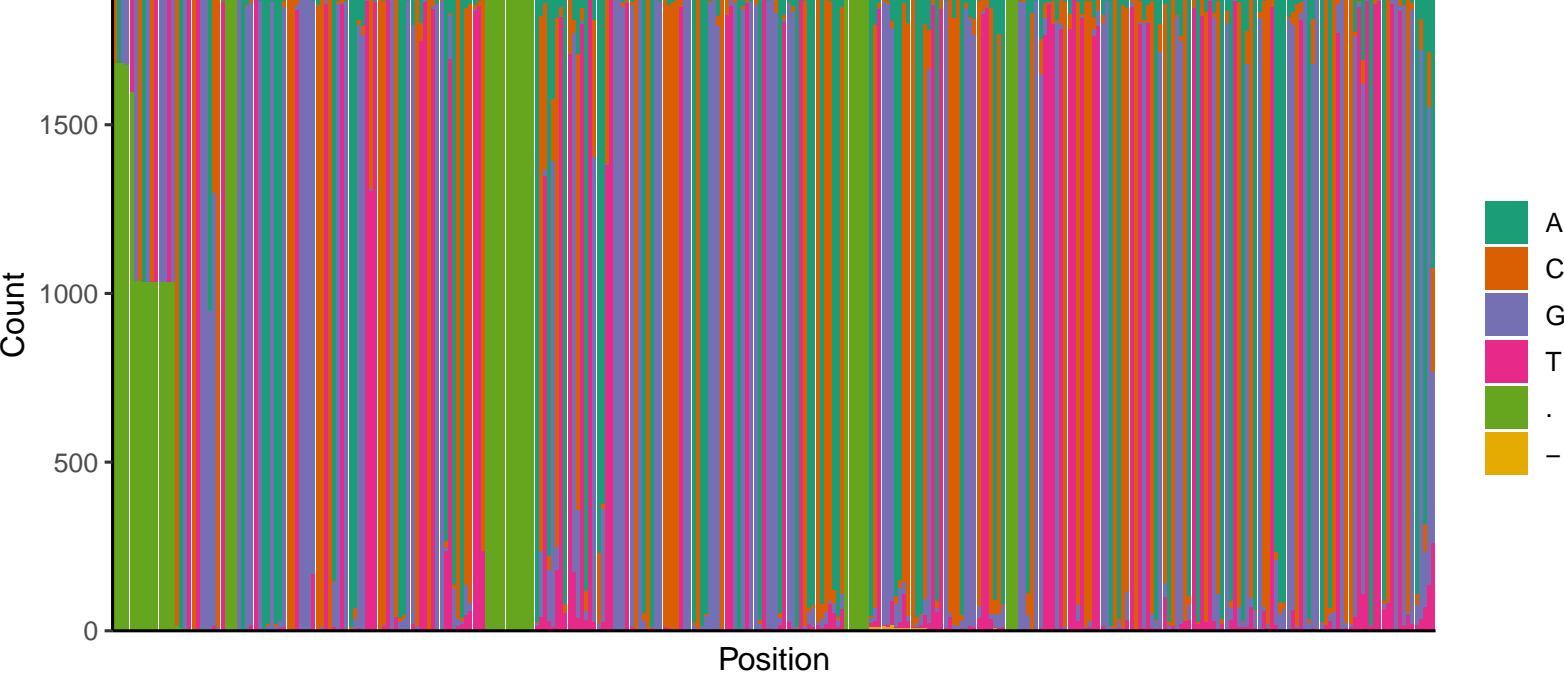
Gene IGHV7-4-1\*02\_A18G\_T25G\_T34G



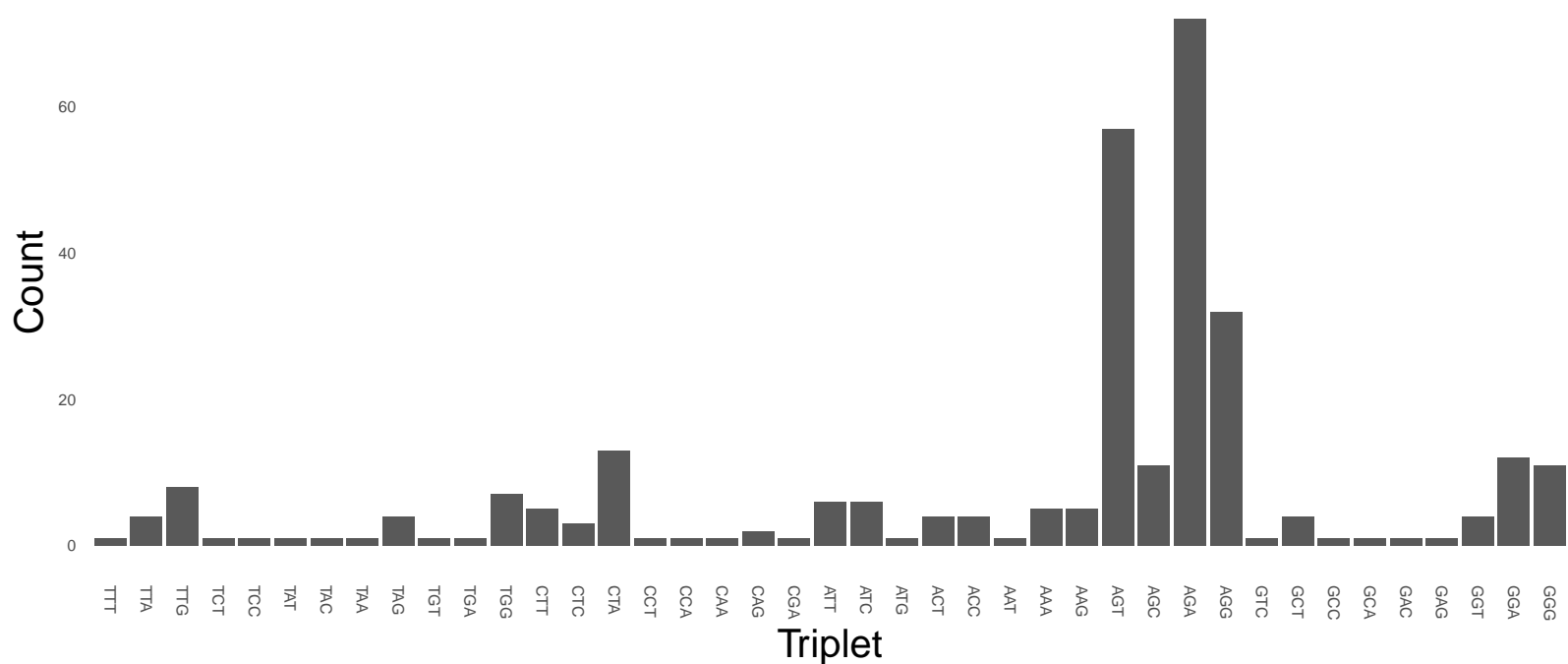
Gene IGHV3-72\*01\_T186C



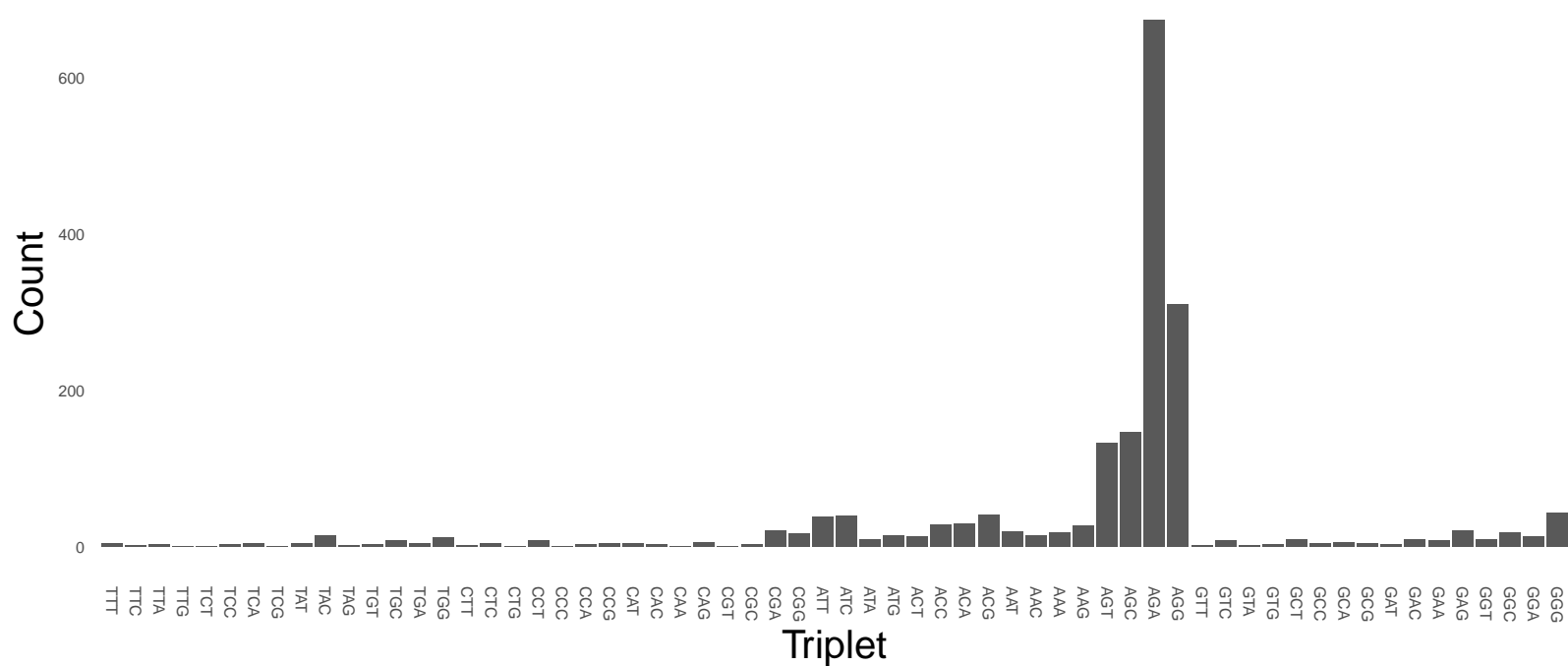
Gene IGHV7-4-1\*02\_A18G\_T25G\_T34G



IGHV3–72\*01\_T186C– Final 3 nucleotides as a triplet

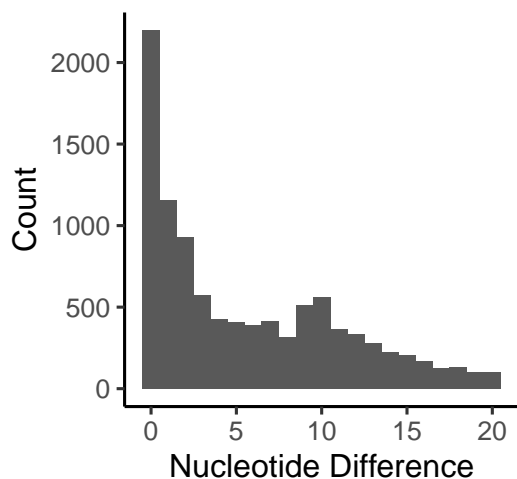


IGHV7–4–1\*02\_A18G\_T25G\_T34G– Final 3 nucleotides as a triplet



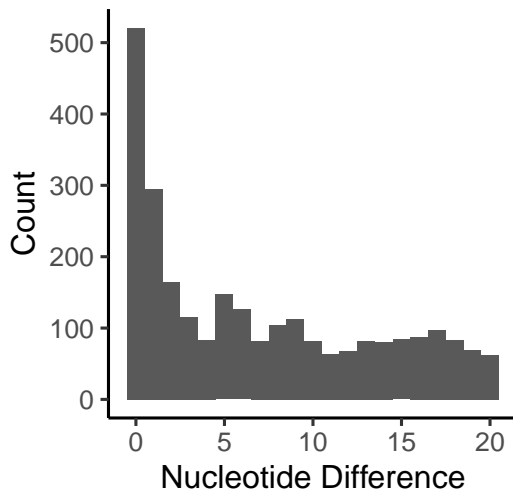
### IGHV1-2\*02

10277 sequences assigned  
2197 (21.4%) exact matches, in which:  
2080 unique CDR3  
6 unique J



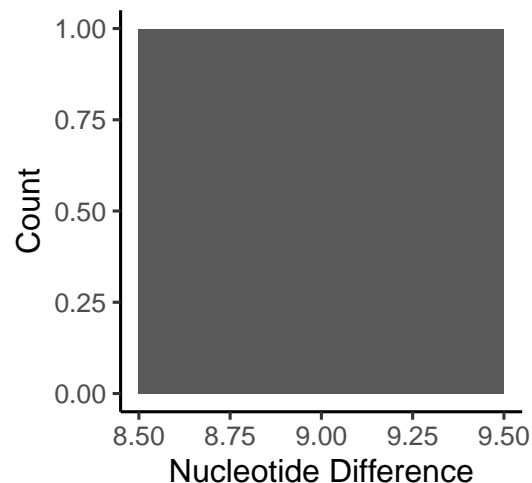
### IGHV1-8\*03

2843 sequences assigned  
521 (18.3%) exact matches, in which:  
495 unique CDR3  
6 unique J



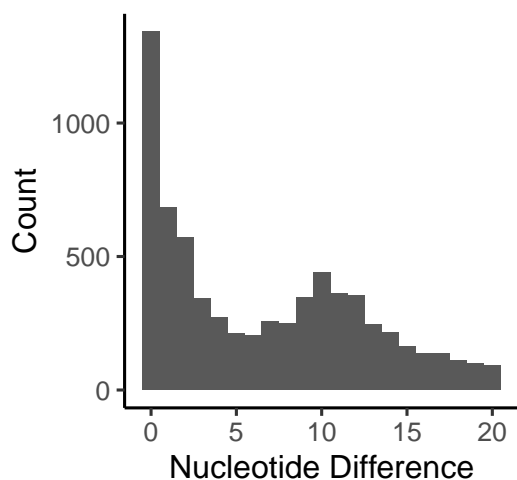
### IGHV1-38-4\*01

1 sequences assigned  
No exact matches.



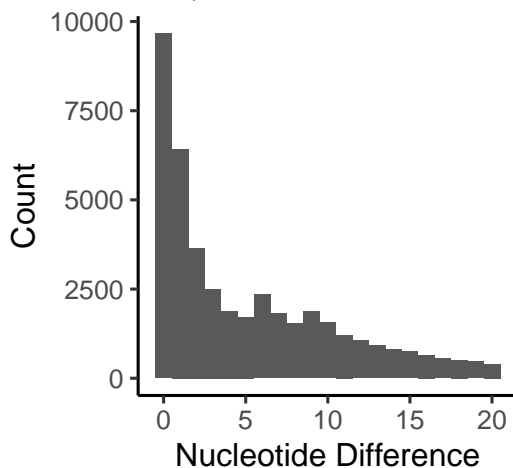
### IGHV1-2\*06

7204 sequences assigned  
1342 (18.6%) exact matches, in which:  
1297 unique CDR3  
6 unique J



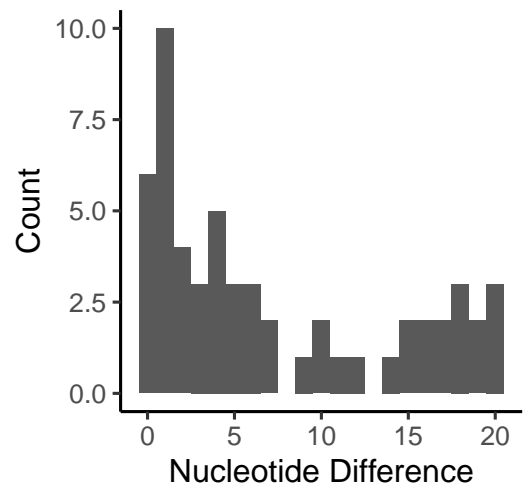
### IGHV1-18\*01

44837 sequences assigned  
9665 (21.6%) exact matches, in which:  
8661 unique CDR3  
6 unique J



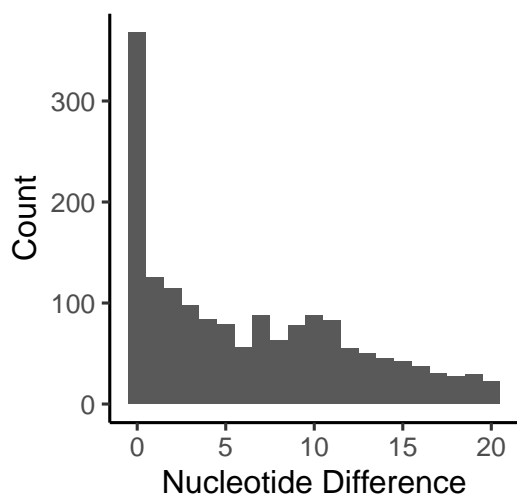
### IGHV1-45\*02

63 sequences assigned  
6 (9.5%) exact matches, in which:  
6 unique CDR3  
3 unique J



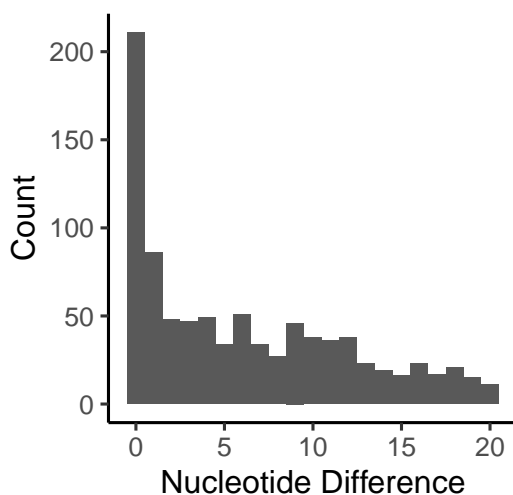
### IGHV1-3\*01\_05

1831 sequences assigned  
368 (20.1%) exact matches, in which:  
360 unique CDR3  
6 unique J



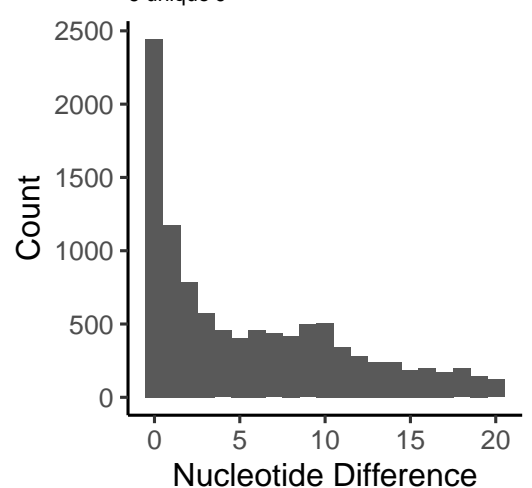
### IGHV1-24\*01

924 sequences assigned  
211 (22.8%) exact matches, in which:  
204 unique CDR3  
6 unique J



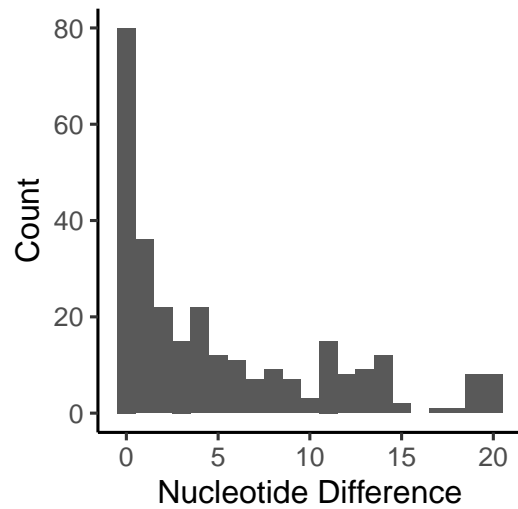
### IGHV1-46\*01

10953 sequences assigned  
2444 (22.3%) exact matches, in which:  
2308 unique CDR3  
6 unique J



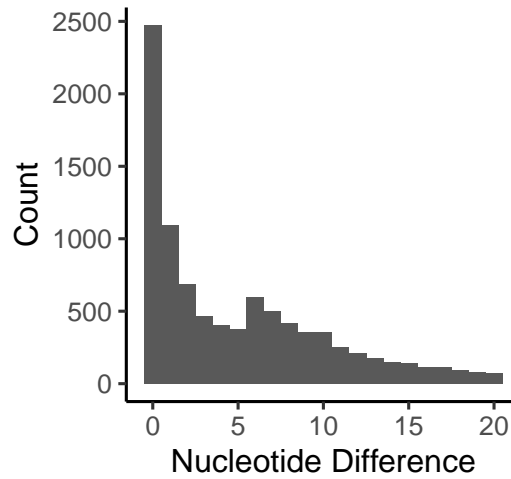
### IGHV1-58\*02

325 sequences assigned  
80 (24.6%) exact matches, in which:  
78 unique CDR3  
5 unique J



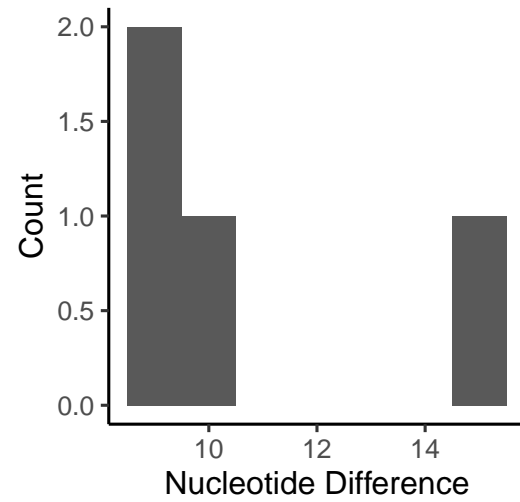
### IGHV1-69\*05

9550 sequences assigned  
2472 (25.9%) exact matches, in which:  
2359 unique CDR3  
6 unique J



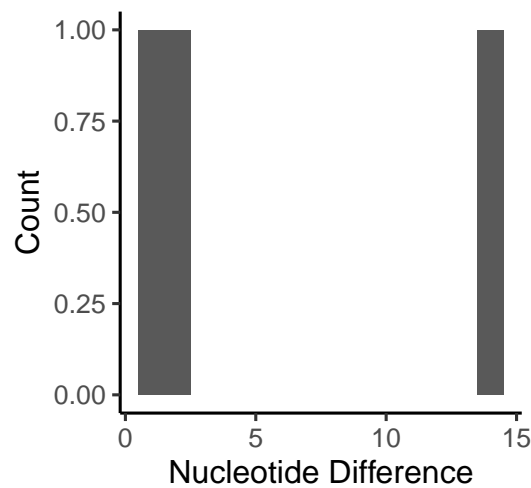
### IGHV2-26\*01

5 sequences assigned  
No exact matches.



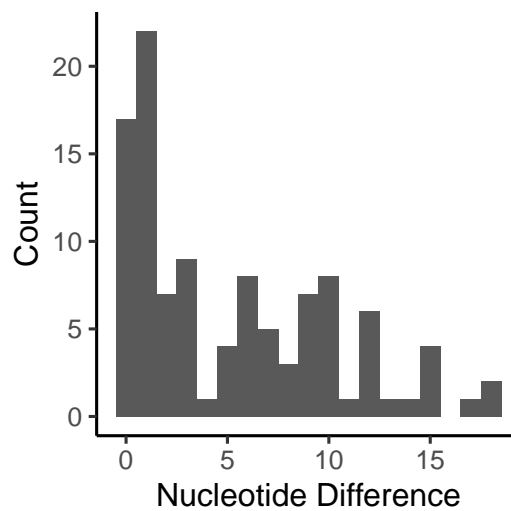
### IGHV1-68\*02

3 sequences assigned  
No exact matches.



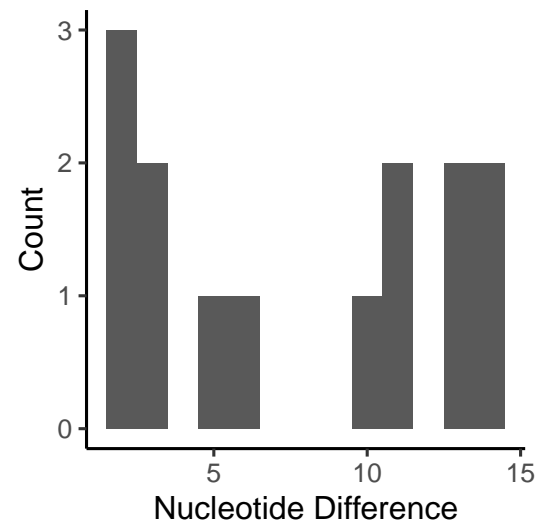
### IGHV2-5\*01

111 sequences assigned  
17 (15.3%) exact matches, in which:  
17 unique CDR3  
6 unique J



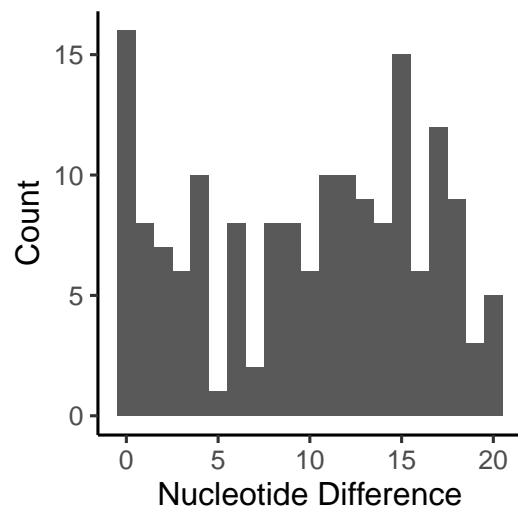
### IGHV2-70\*01

14 sequences assigned  
No exact matches.



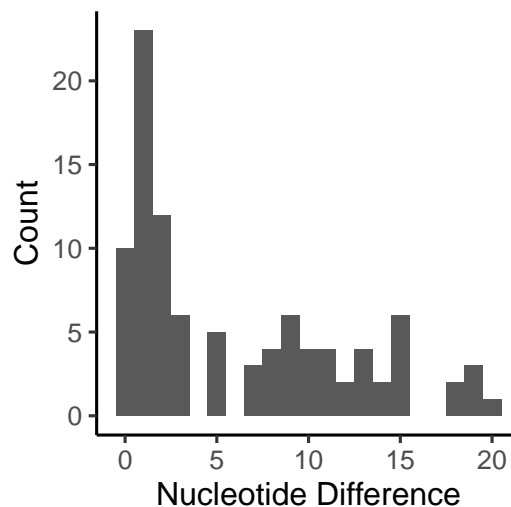
### IGHV1-69-2\*01

198 sequences assigned  
16 (8.1%) exact matches, in which:  
16 unique CDR3  
4 unique J



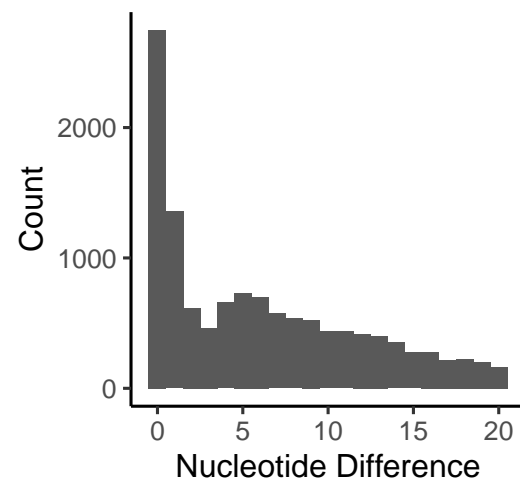
### IGHV2-5\*02

97 sequences assigned  
10 (10.3%) exact matches, in which:  
10 unique CDR3  
4 unique J



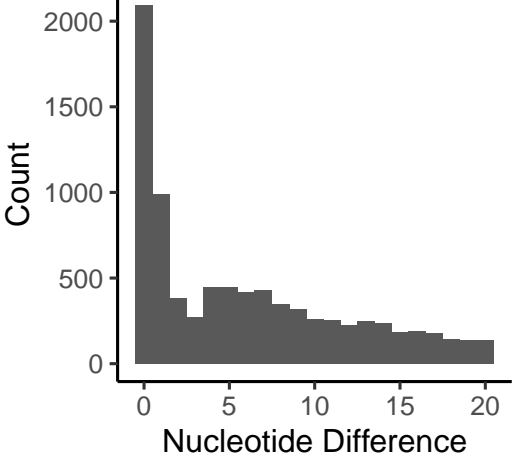
### IGHV3-7\*01

12969 sequences assigned  
2748 (21.2%) exact matches, in which:  
2624 unique CDR3  
6 unique J



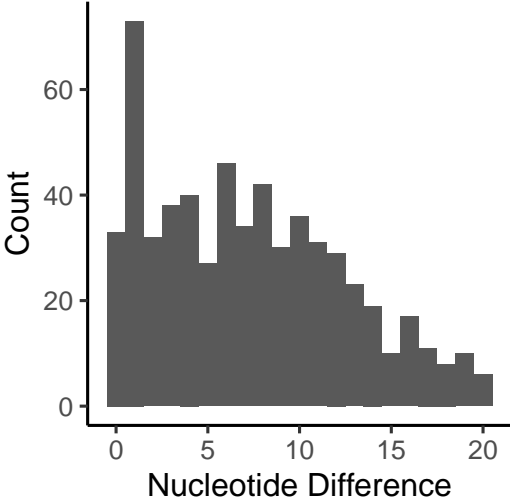
IGHV3-7\*03

8803 sequences assigned  
2092 (23.8%) exact matches, in which:  
2000 unique CDR3  
6 unique J



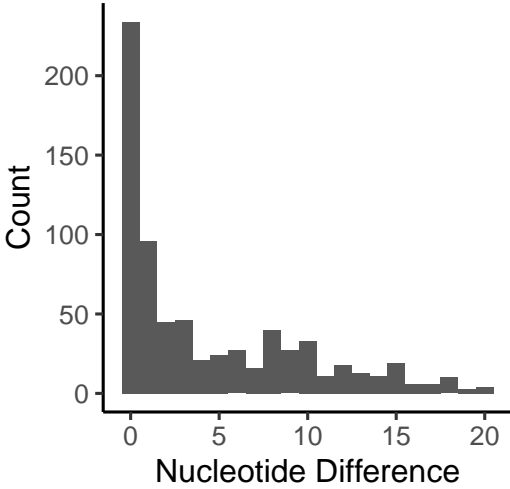
IGHV3-11\*01

618 sequences assigned  
33 (5.3%) exact matches, in which:  
33 unique CDR3  
5 unique J



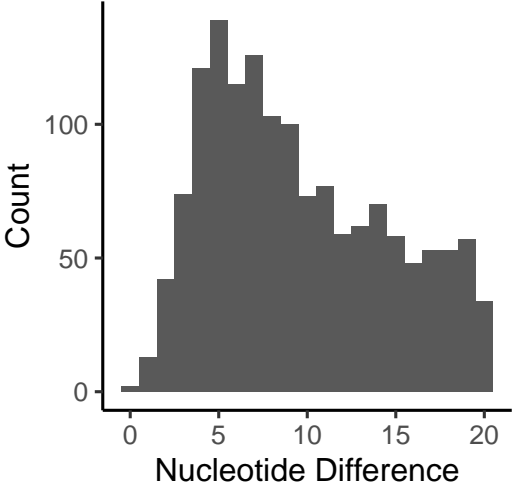
IGHV3-13\*05

735 sequences assigned  
234 (31.8%) exact matches, in which:  
219 unique CDR3  
6 unique J



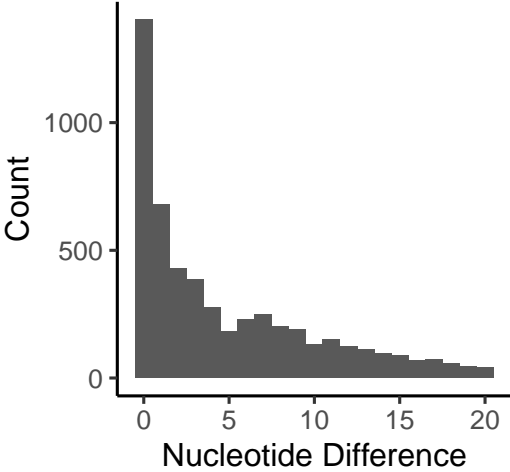
IGHV3-9\*01

1579 sequences assigned  
2 (0.1%) exact matches, in which:  
2 unique CDR3  
1 unique J



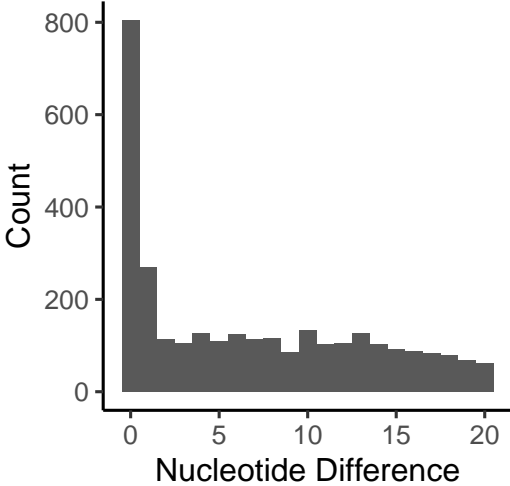
IGHV3-11\*04

5393 sequences assigned  
1403 (26%) exact matches, in which:  
1334 unique CDR3  
6 unique J



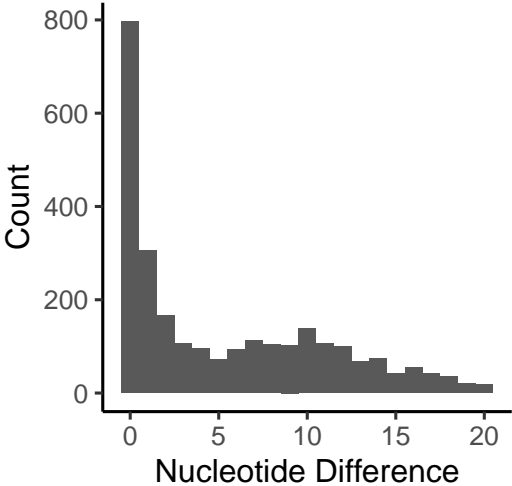
IGHV3-15\*01\_02

3441 sequences assigned  
805 (23.4%) exact matches, in which:  
787 unique CDR3  
6 unique J



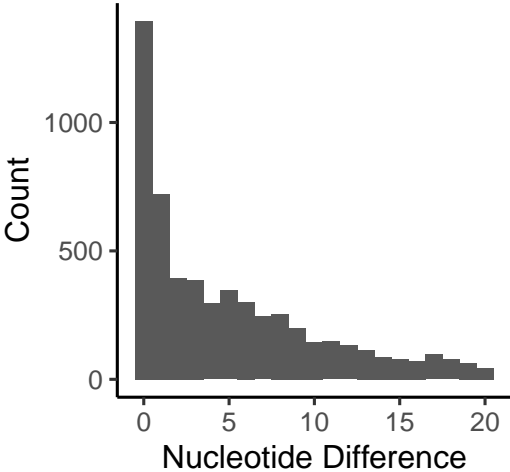
IGHV3-9\*03

2718 sequences assigned  
797 (29.3%) exact matches, in which:  
746 unique CDR3  
6 unique J



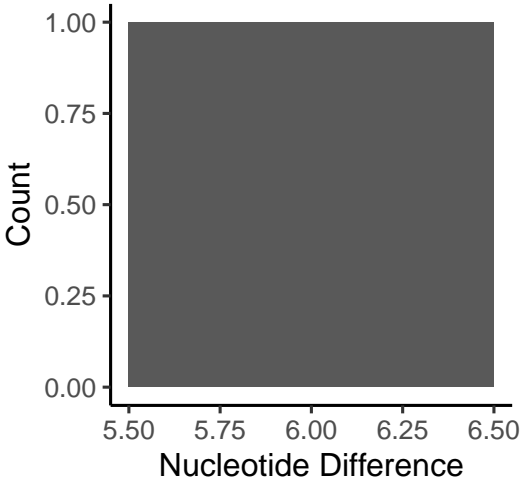
IGHV3-11\*06

5853 sequences assigned  
1395 (23.8%) exact matches, in which:  
1327 unique CDR3  
6 unique J



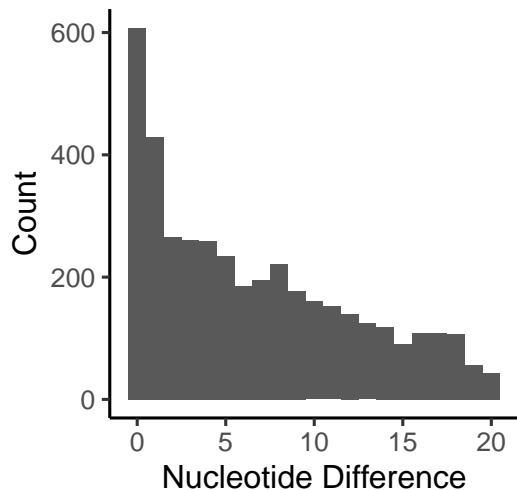
IGHV3-19\*01

1 sequences assigned  
No exact matches.



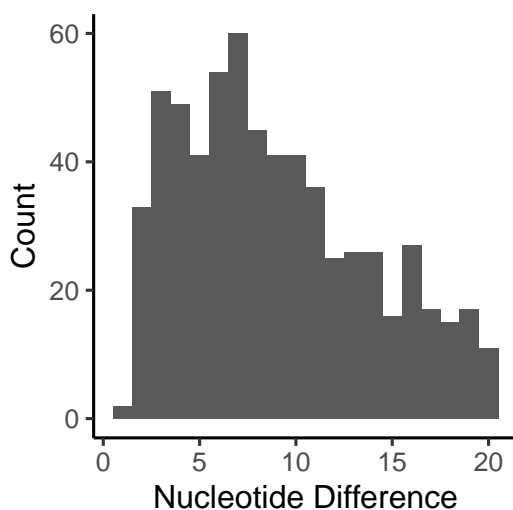
### IGHV3-20\*03\_04

4168 sequences assigned  
608 (14.6%) exact matches, in which:  
583 unique CDR3  
6 unique J



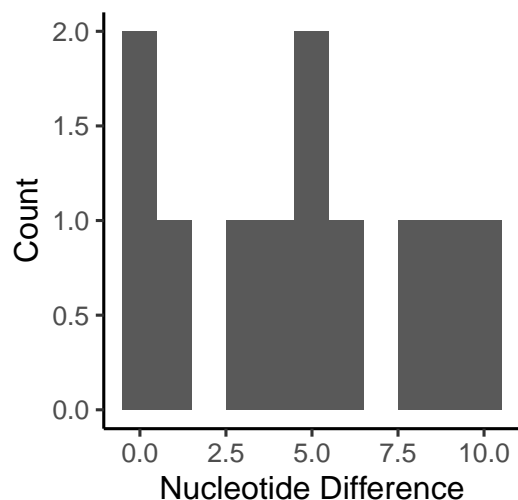
### IGHV3-33\*01

686 sequences assigned  
No exact matches.



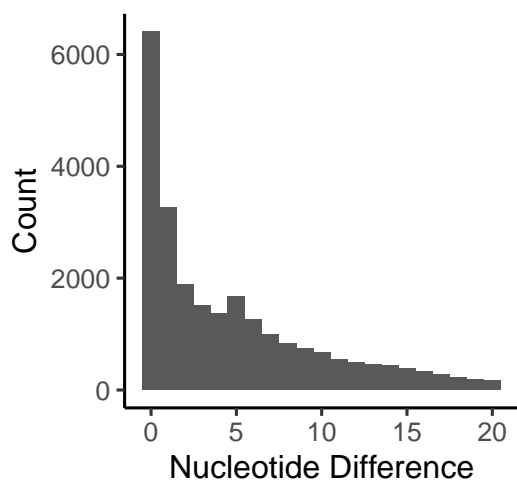
### IGHV3-35\*01

11 sequences assigned  
2 (18.2%) exact matches, in which:  
2 unique CDR3  
1 unique J



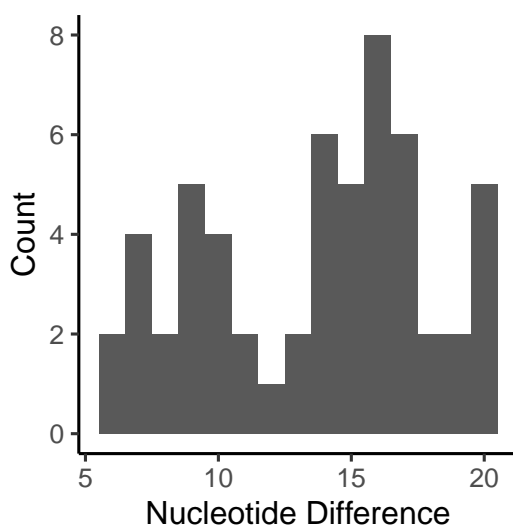
### IGHV3-21\*01\_02

24795 sequences assigned  
6406 (25.8%) exact matches, in which:  
6000 unique CDR3  
6 unique J



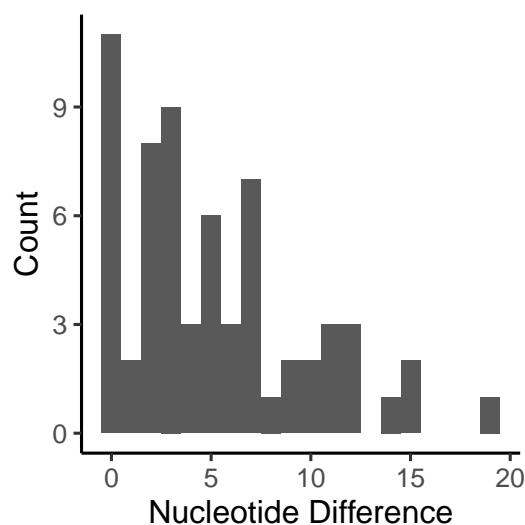
### IGHV3-33\*03

77 sequences assigned  
No exact matches.



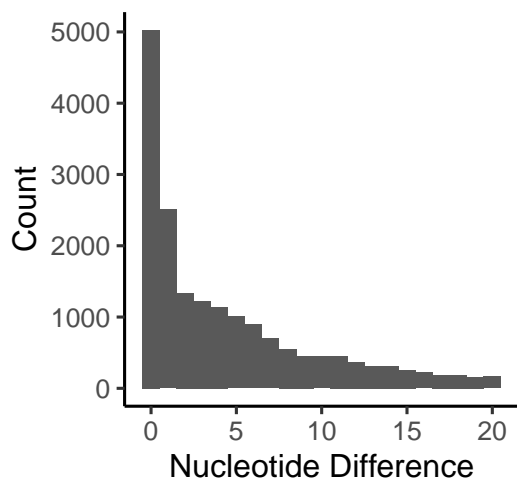
### IGHV3-38-3\*01

65 sequences assigned  
11 (16.9%) exact matches, in which:  
11 unique CDR3  
4 unique J



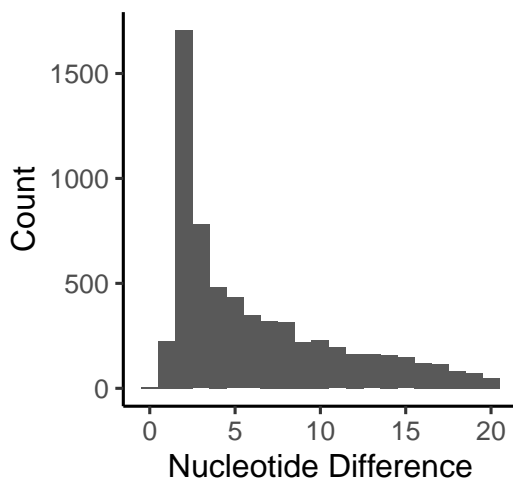
### IGHV3-30-3\*01

18684 sequences assigned  
5026 (26.9%) exact matches, in which:  
4833 unique CDR3  
6 unique J



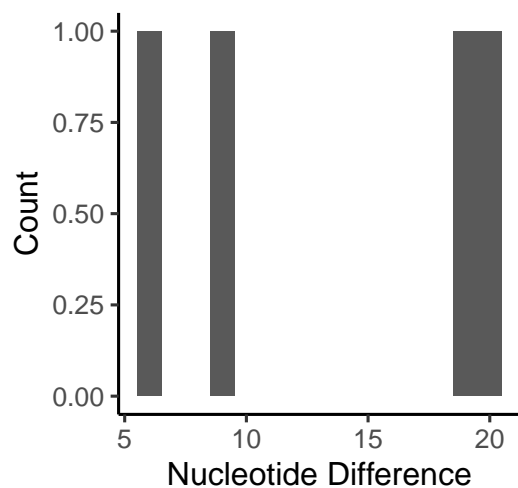
### IGHV3-33\*05

6573 sequences assigned  
6 (0.1%) exact matches, in which:  
6 unique CDR3  
3 unique J



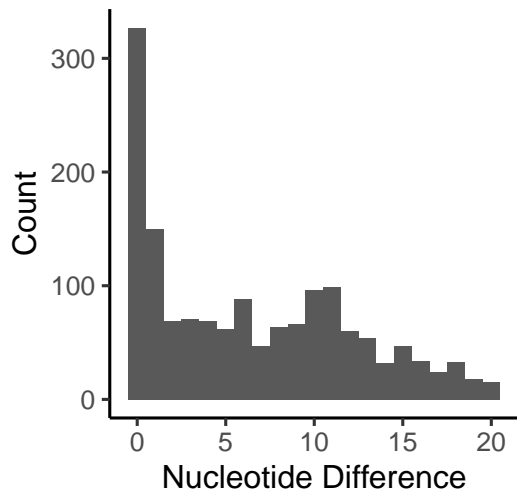
### IGHV3-38\*03

5 sequences assigned  
No exact matches.



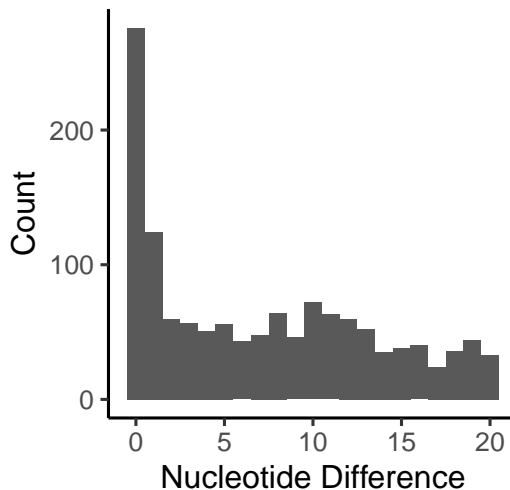
### IGHV3-43\*01

1621 sequences assigned  
327 (20.2%) exact matches, in which:  
313 unique CDR3  
6 unique J



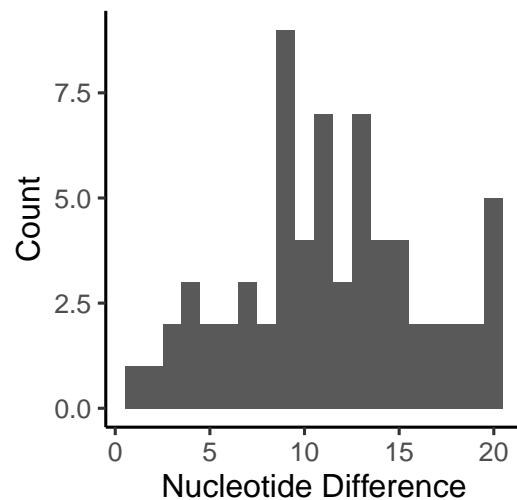
### IGHV3-49\*04

1456 sequences assigned  
276 (19%) exact matches, in which:  
263 unique CDR3  
6 unique J



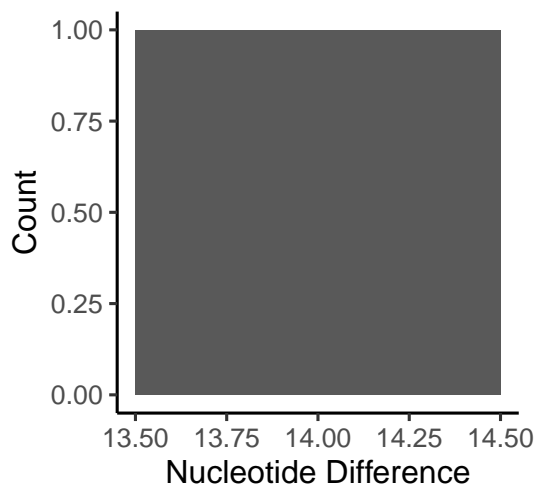
### IGHV3-53\*05

83 sequences assigned  
No exact matches.



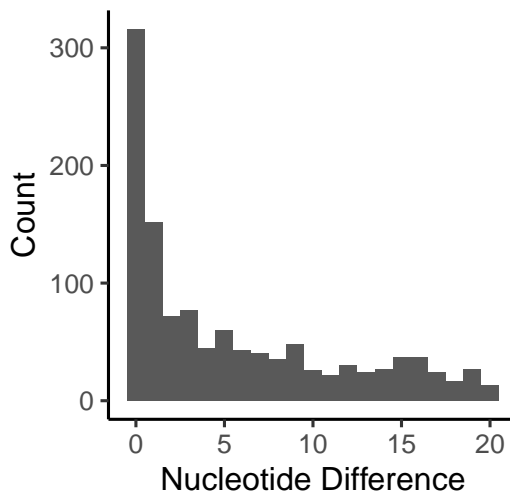
### IGHV3-47\*02

1 sequences assigned  
No exact matches.



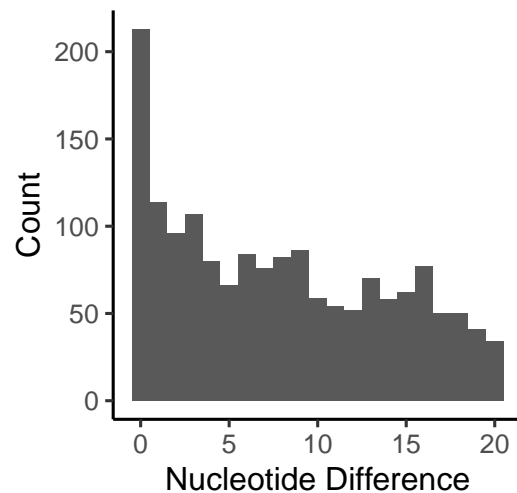
### IGHV3-49\*03\_05

1234 sequences assigned  
316 (25.6%) exact matches, in which:  
309 unique CDR3  
6 unique J



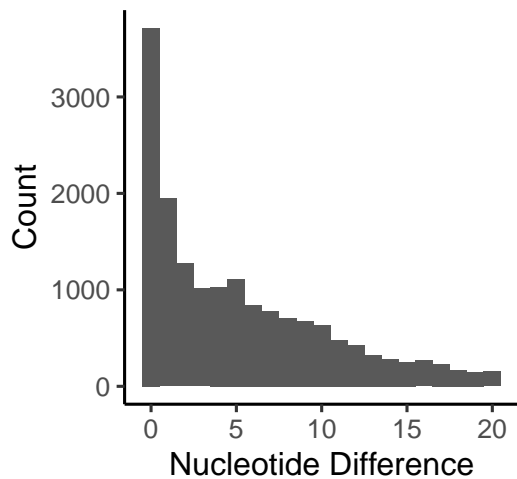
### IGHV3-53\*01\_02

1716 sequences assigned  
213 (12.4%) exact matches, in which:  
203 unique CDR3  
6 unique J



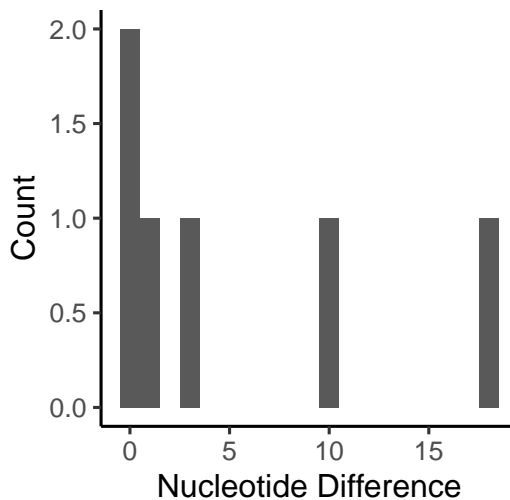
### IGHV3-48\*01

17217 sequences assigned  
3714 (21.6%) exact matches, in which:  
3534 unique CDR3  
6 unique J



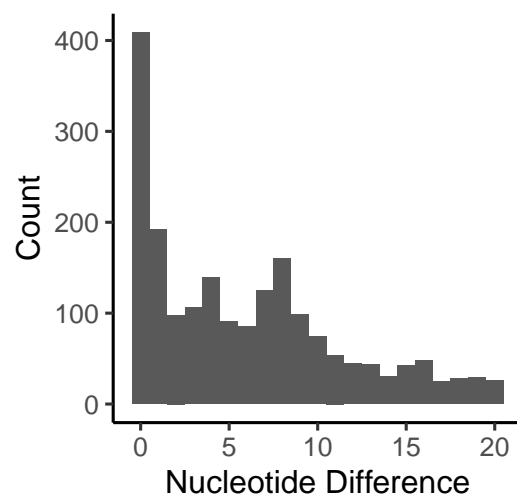
### IGHV3-52\*01\_03

7 sequences assigned  
2 (28.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



### IGHV3-64\*01

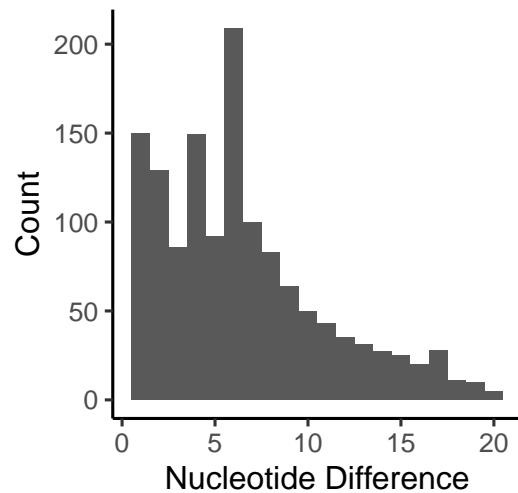
2066 sequences assigned  
409 (19.8%) exact matches, in which:  
388 unique CDR3  
6 unique J





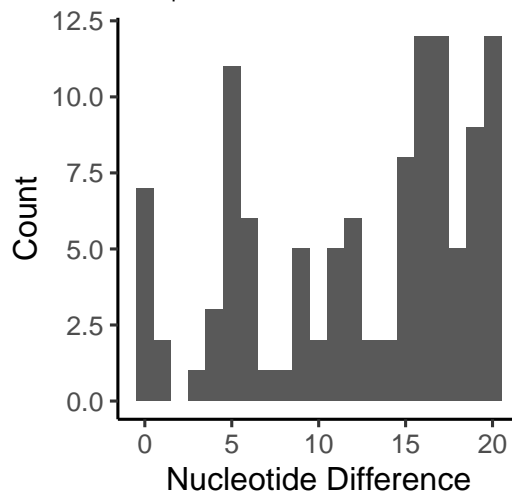
### IGHV3-64\*04

1396 sequences assigned  
No exact matches.



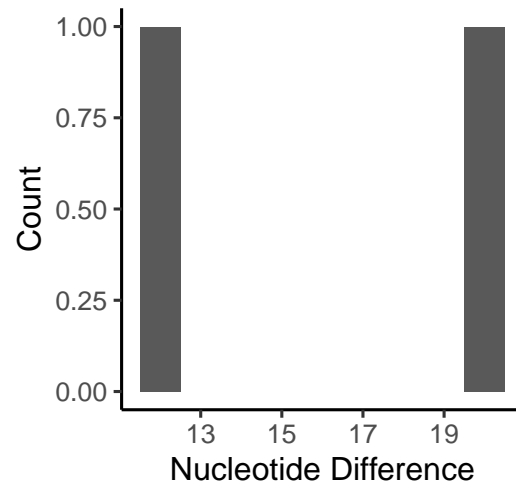
### IGHV3-69-1\*01

137 sequences assigned  
7 (5.1%) exact matches, in which:  
7 unique CDR3  
3 unique J



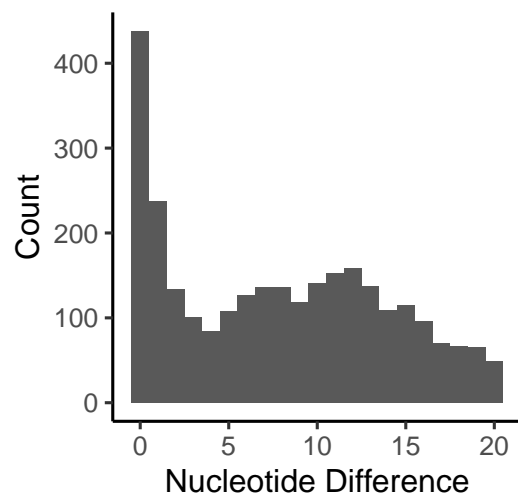
### IGHV3-71\*01\_04

5 sequences assigned  
No exact matches.



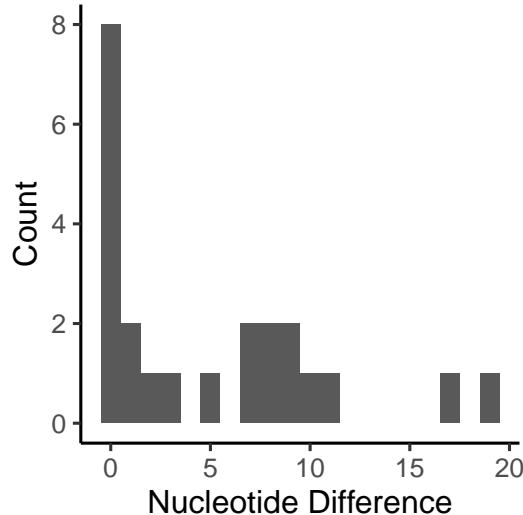
### IGHV3-66\*02

3067 sequences assigned  
438 (14.3%) exact matches, in which:  
420 unique CDR3  
6 unique J



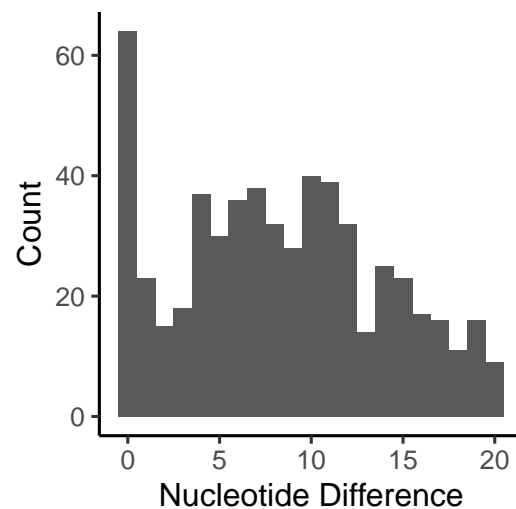
### IGHV3-69-1\*02

30 sequences assigned  
8 (26.7%) exact matches, in which:  
7 unique CDR3  
2 unique J



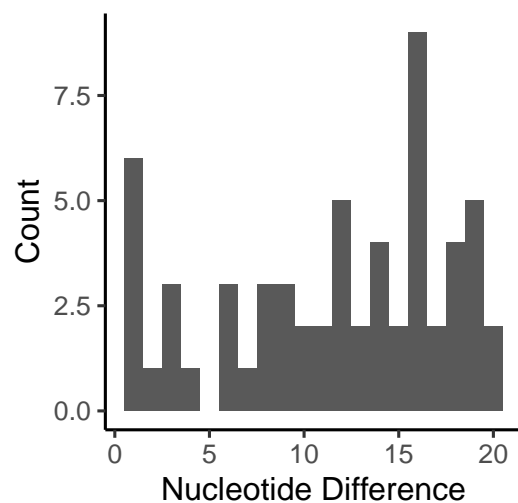
### IGHV3-72\*01

639 sequences assigned  
64 (10%) exact matches, in which:  
59 unique CDR3  
4 unique J



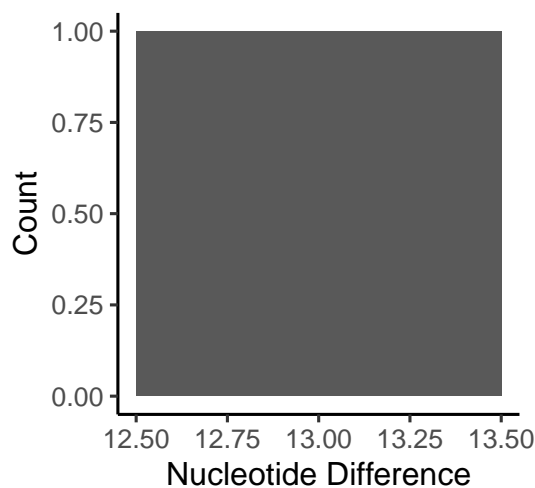
### IGHV3-66\*03

87 sequences assigned  
No exact matches.



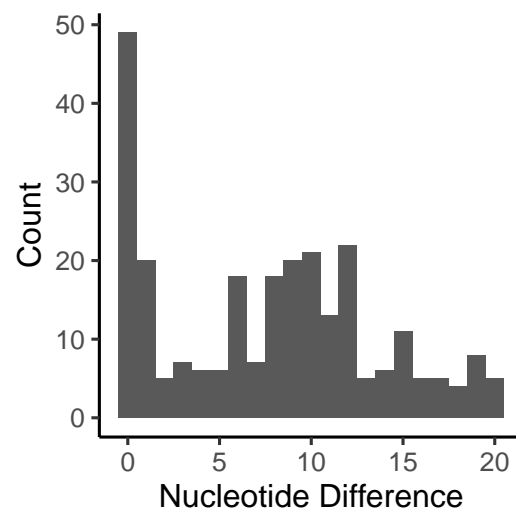
### IGHV3-71\*03

5 sequences assigned  
No exact matches.



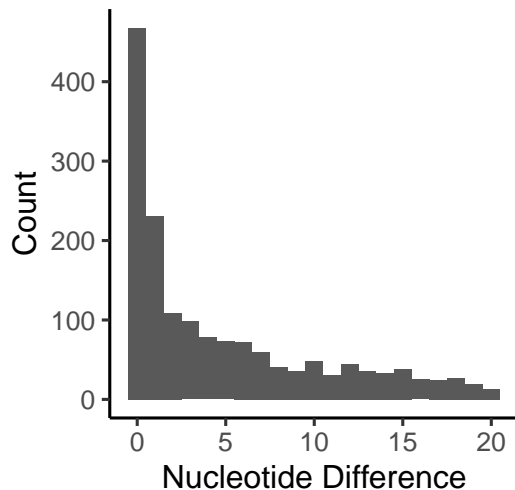
### IGHV3-72\*01\_T186C

298 sequences assigned  
49 (16.4%) exact matches, in which:  
47 unique CDR3  
5 unique J



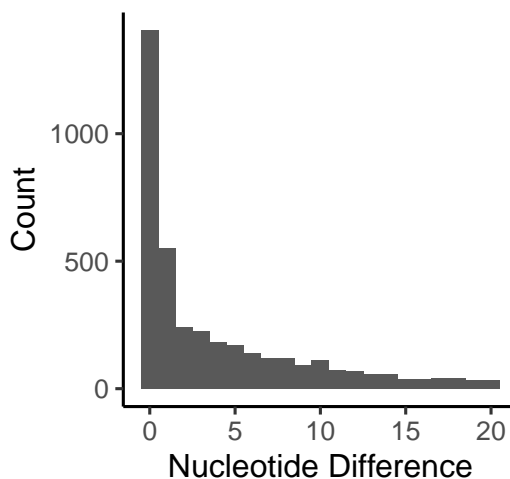
### IGHV3-73\*01\_02

1720 sequences assigned  
468 (27.2%) exact matches, in which:  
446 unique CDR3  
6 unique J



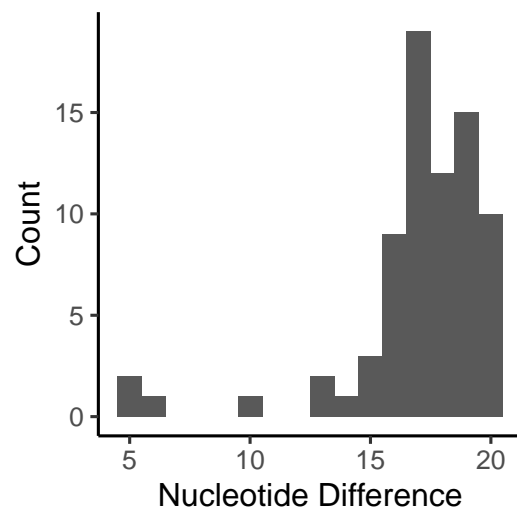
### IGHV3-64D\*06

4056 sequences assigned  
1405 (34.6%) exact matches, in which:  
1283 unique CDR3  
6 unique J



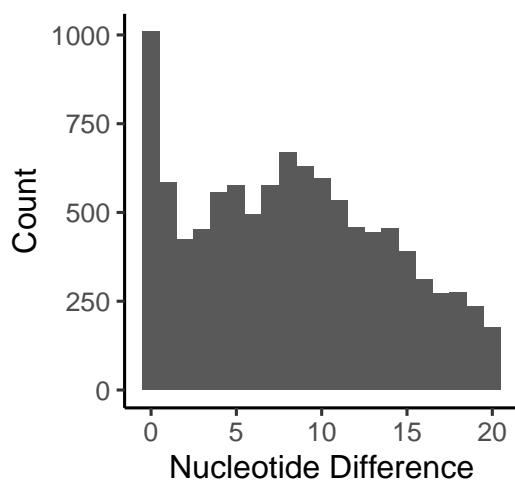
### IGHV4-28\*03

245 sequences assigned  
No exact matches.



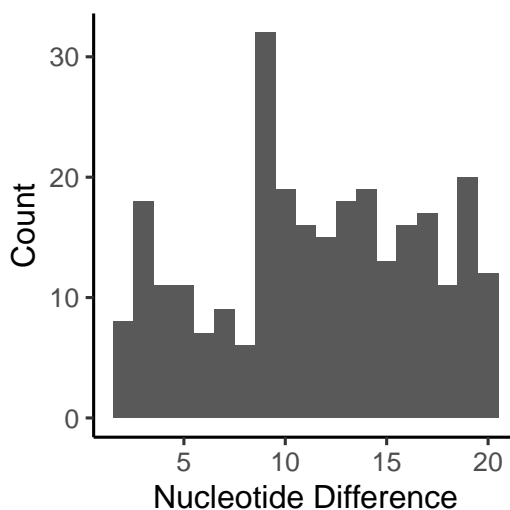
### IGHV3-74\*01\_02

10889 sequences assigned  
1009 (9.3%) exact matches, in which:  
939 unique CDR3  
6 unique J



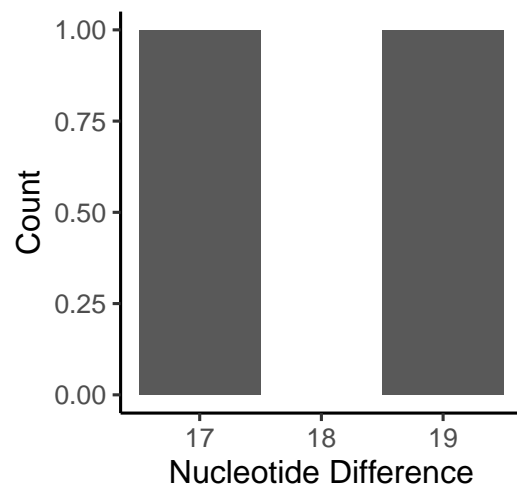
### IGHV3-NL1\*01

348 sequences assigned  
No exact matches.



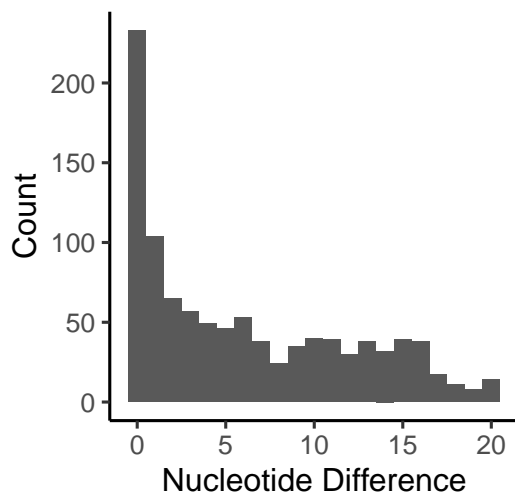
### IGHV4-28\*01\_07

10 sequences assigned  
No exact matches.



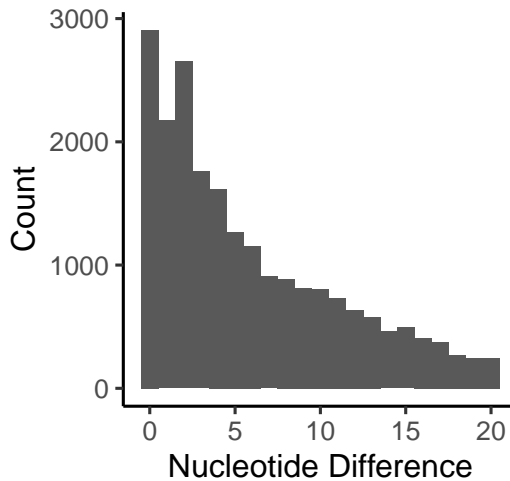
### IGHV3-43D\*03

1069 sequences assigned  
233 (21.8%) exact matches, in which:  
219 unique CDR3  
6 unique J



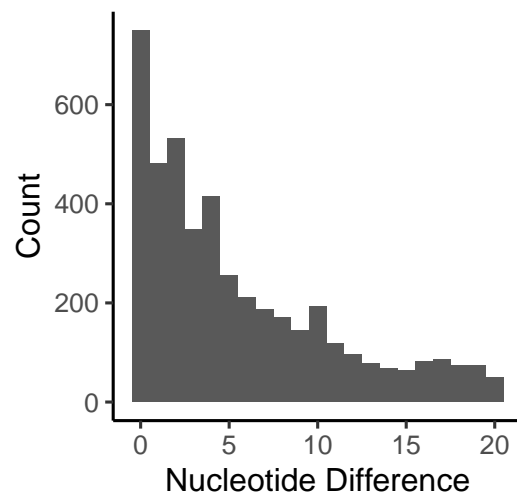
### IGHV4-4\*09

22439 sequences assigned  
2907 (13%) exact matches, in which:  
2523 unique CDR3  
6 unique J



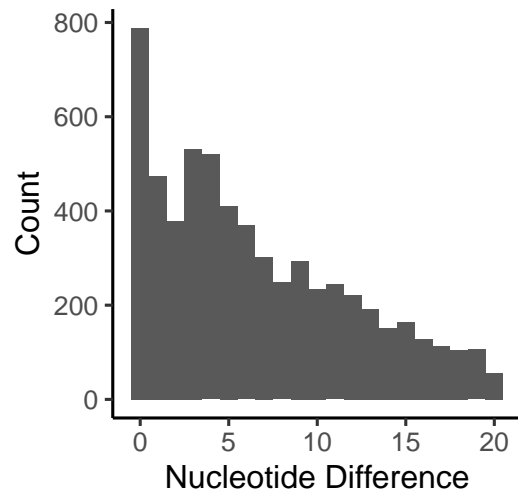
### IGHV4-30-2\*01

4630 sequences assigned  
750 (16.2%) exact matches, in which:  
667 unique CDR3  
6 unique J



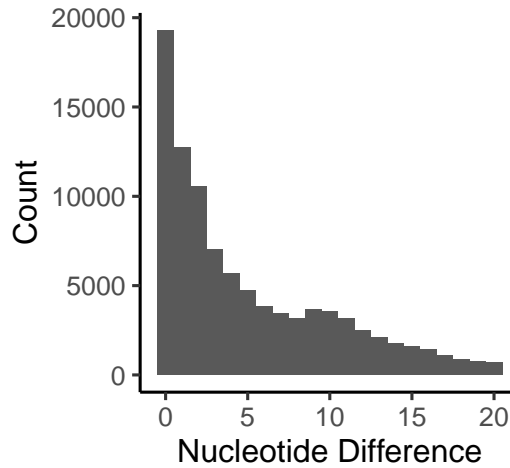
### IGHV4-30-4\*08

6404 sequences assigned  
789 (12.3%) exact matches, in which:  
715 unique CDR3  
6 unique J



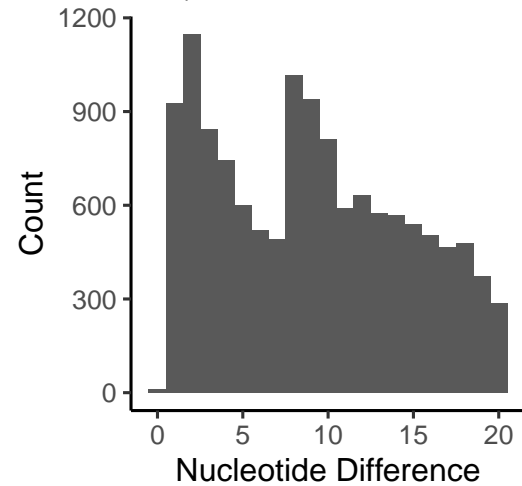
### IGHV4-34\*01\_02

98057 sequences assigned  
19302 (19.7%) exact matches, in which:  
16242 unique CDR3  
6 unique J



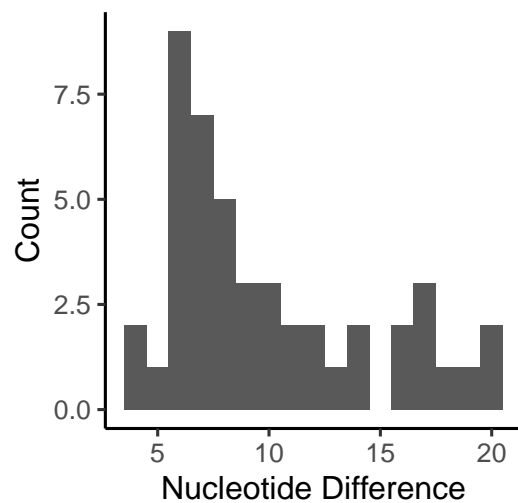
### IGHV4-39\*07

14528 sequences assigned  
11 (0.1%) exact matches, in which:  
11 unique CDR3  
2 unique J



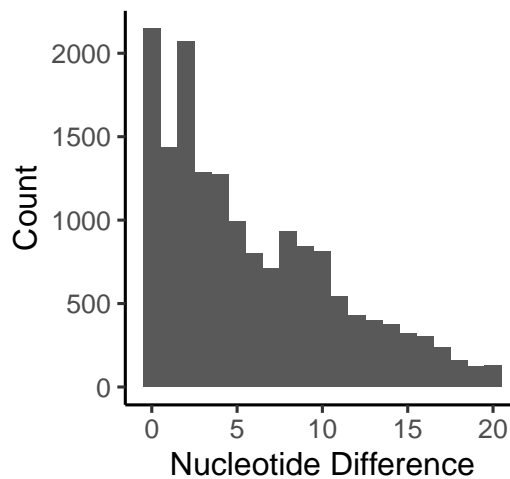
### IGHV4-31\*11

52 sequences assigned  
No exact matches.



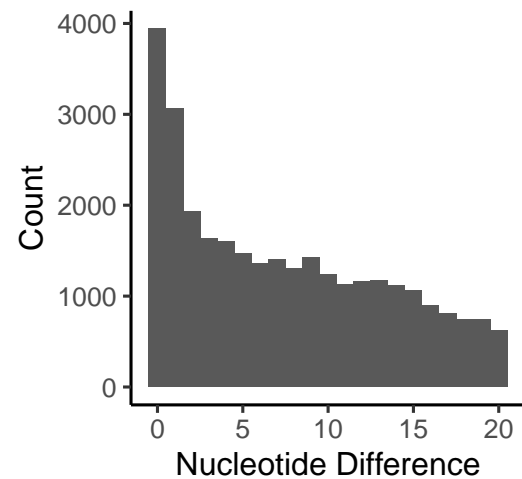
### IGHV4-38-2\*02

16855 sequences assigned  
2147 (12.7%) exact matches, in which:  
1888 unique CDR3  
6 unique J



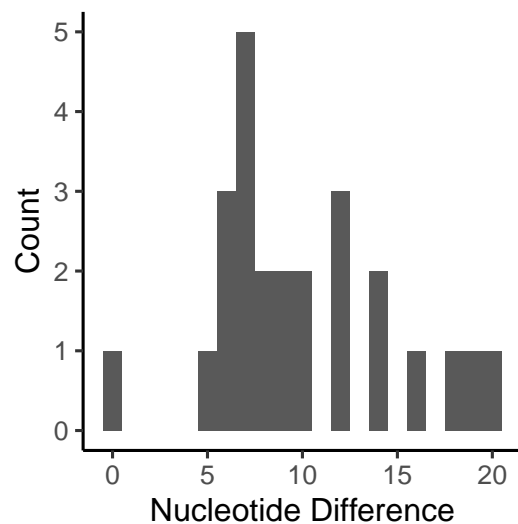
### IGHV4-39\*01\_05

33103 sequences assigned  
3942 (11.9%) exact matches, in which:  
3485 unique CDR3  
6 unique J



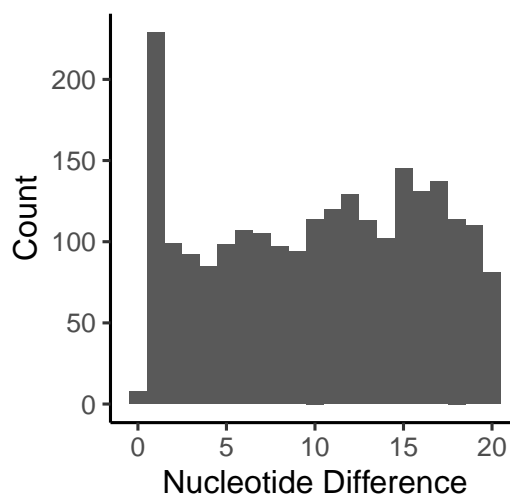
### IGHV4-31\*03\_04

29 sequences assigned  
1 (3.4%) exact matches, in which:  
1 unique CDR3  
1 unique J



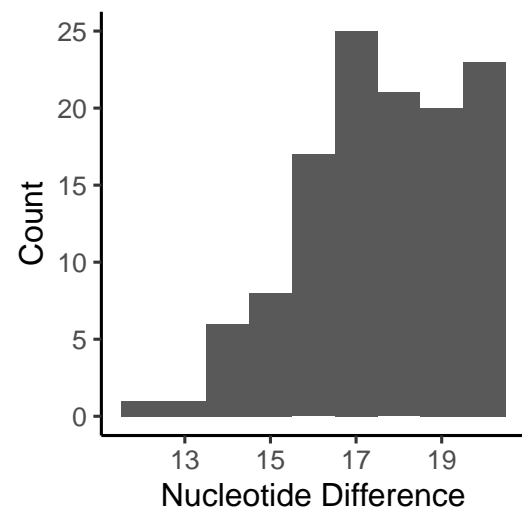
### IGHV4-39\*02

2650 sequences assigned  
8 (0.3%) exact matches, in which:  
7 unique CDR3  
4 unique J



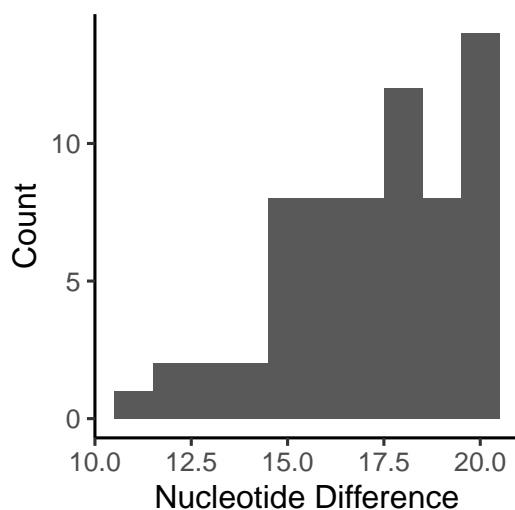
### IGHV4-55\*09

300 sequences assigned  
No exact matches.



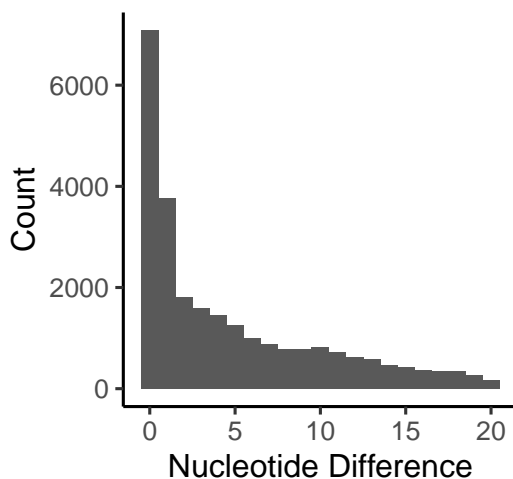
### IGHV4-55\*01\_05

248 sequences assigned  
No exact matches.



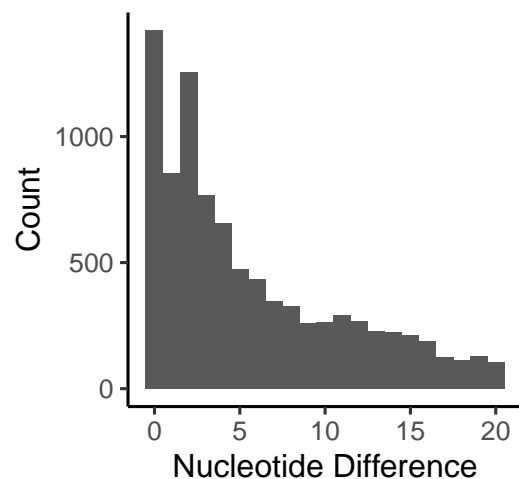
### IGHV4-59\*11

26416 sequences assigned  
7083 (26.8%) exact matches, in which:  
6052 unique CDR3  
6 unique J



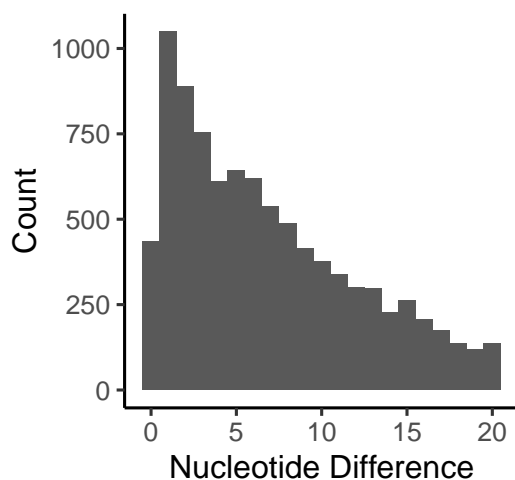
### IGHV4-61\*02

9355 sequences assigned  
1421 (15.2%) exact matches, in which:  
1241 unique CDR3  
6 unique J



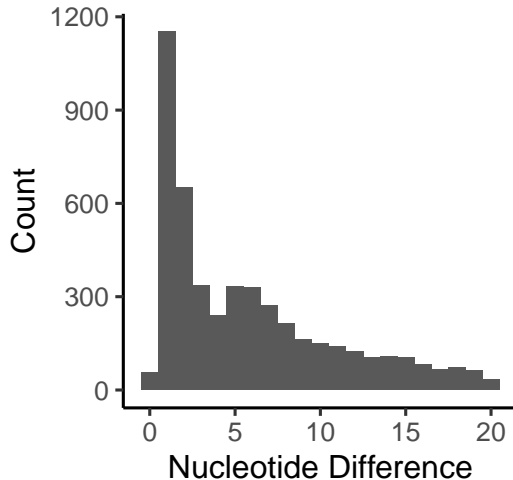
### IGHV4-59\*08

9456 sequences assigned  
435 (4.6%) exact matches, in which:  
425 unique CDR3  
6 unique J



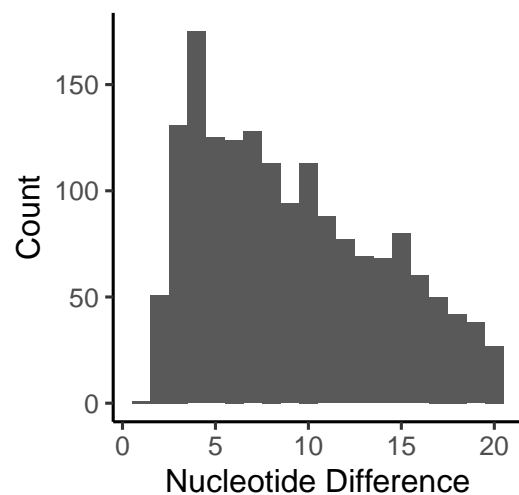
### IGHV4-59\*12

5024 sequences assigned  
56 (1.1%) exact matches, in which:  
55 unique CDR3  
6 unique J



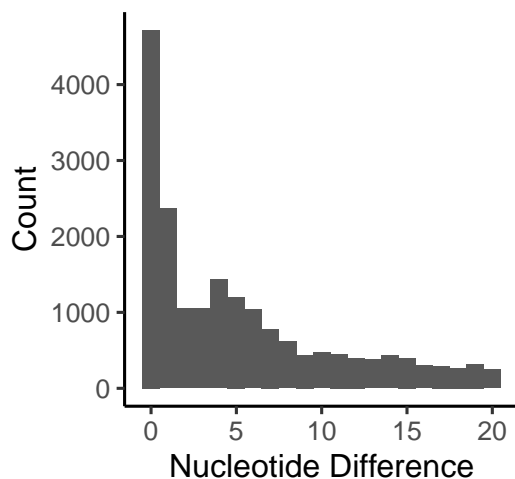
### IGHV4-61\*05

1757 sequences assigned  
No exact matches.



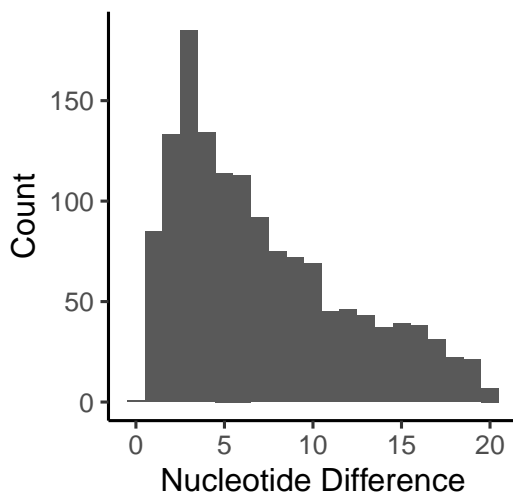
### IGHV4-59\*01\_07

19401 sequences assigned  
4718 (24.3%) exact matches, in which:  
4099 unique CDR3  
6 unique J



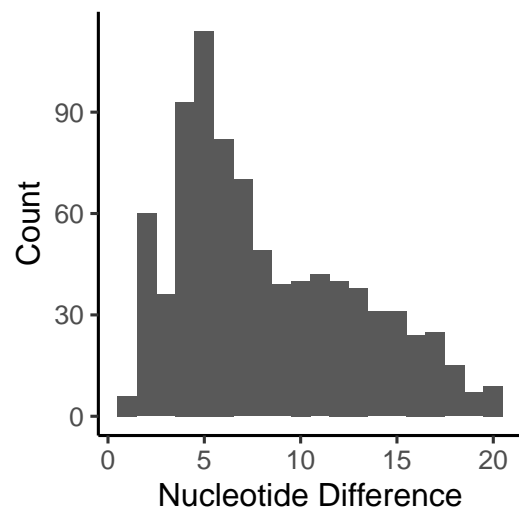
### IGHV4-61\*01

1459 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



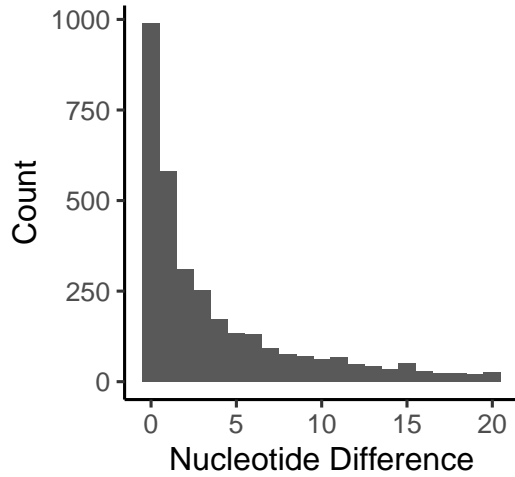
### IGHV4-61\*08

887 sequences assigned  
No exact matches.



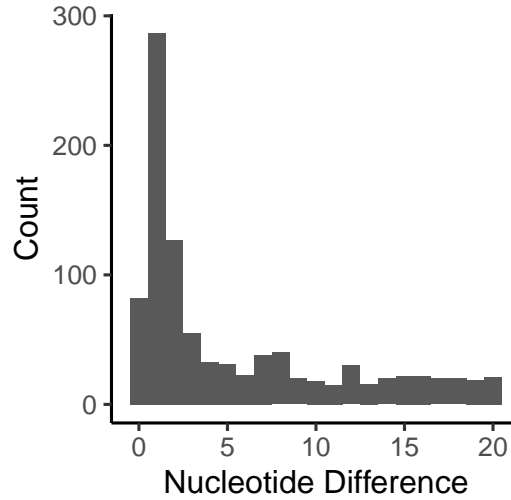
### IGHV5-10-1\*01\_03

3304 sequences assigned  
989 (29.9%) exact matches, in which:  
948 unique CDR3  
6 unique J



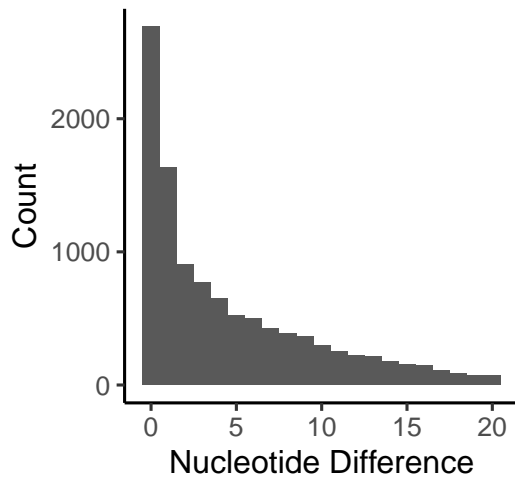
### IGHV7-4-1\*02

1050 sequences assigned  
82 (7.8%) exact matches, in which:  
82 unique CDR3  
5 unique J



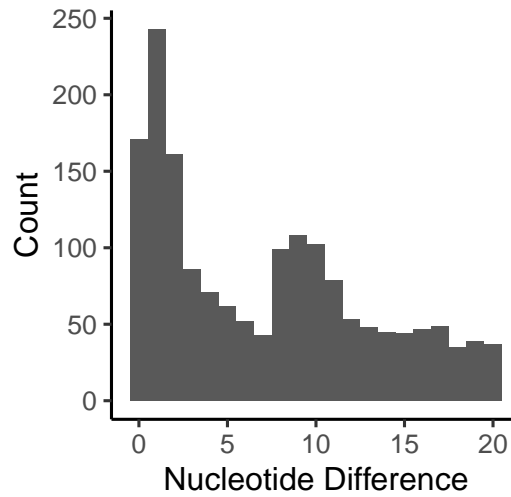
### IGHV5-51\*01\_03

10897 sequences assigned  
2691 (24.7%) exact matches, in which:  
2533 unique CDR3  
6 unique J



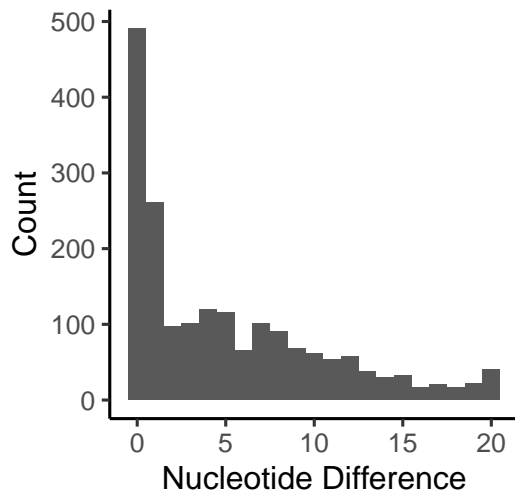
### IGHV7-4-1\*02\_A18G\_T25G\_T34G

1872 sequences assigned  
171 (9.1%) exact matches, in which:  
168 unique CDR3  
6 unique J



### IGHV6-1\*01\_02

1942 sequences assigned  
491 (25.3%) exact matches, in which:  
453 unique CDR3  
6 unique J





Warning – no inferred sequences found.

Novel sequence(s)IGHV4–59\*02\_G88A are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning:IGHV4–31\*02,IGHV4–31\*03\_04 have identical germline sequences.

Warning – no inferred sequences found.

Novel sequence(s)IGHV3–30\*02\_T201C are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV1–3\*01\_05\_C134AIGHV4–59\*02\_G88A are not listed in the genotype and will be ignored.