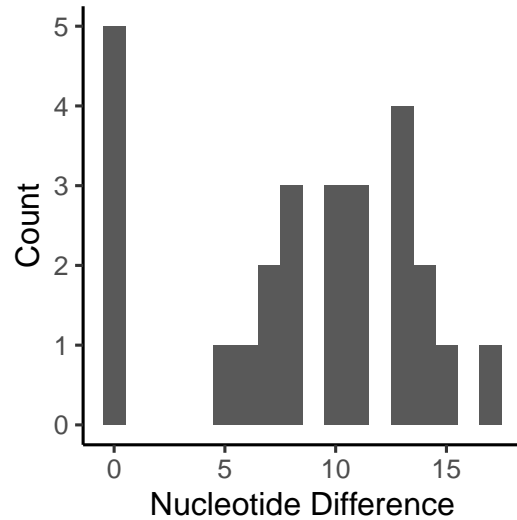


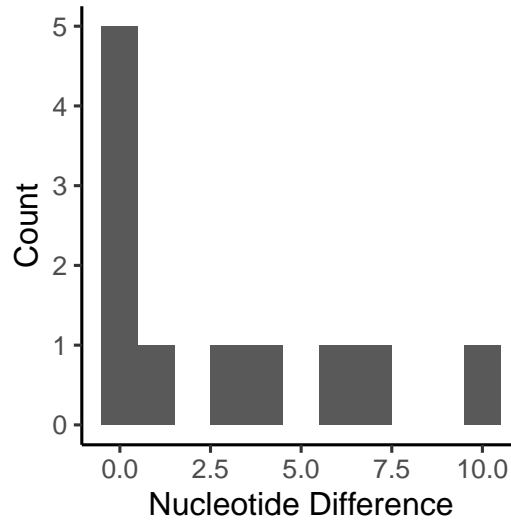
### IGHV1-2\*02

29 sequences assigned  
5 (17.2%) exact matches, in which:  
5 unique CDR3  
2 unique J



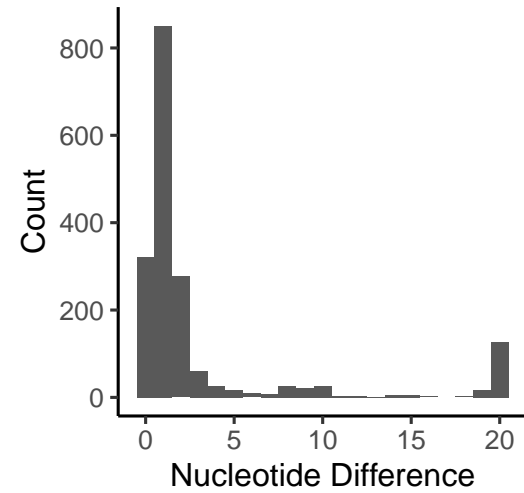
### IGHV1-8\*01

12 sequences assigned  
5 (41.7%) exact matches, in which:  
5 unique CDR3  
3 unique J



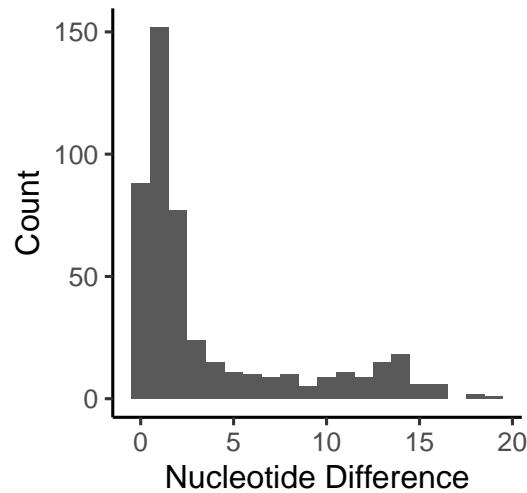
### IGHV1-18\*04

2240 sequences assigned  
321 (14.3%) exact matches, in which:  
226 unique CDR3  
4 unique J



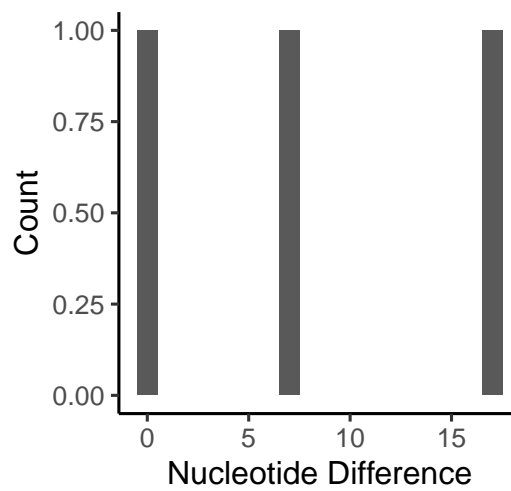
### IGHV1-2\*04

479 sequences assigned  
88 (18.4%) exact matches, in which:  
76 unique CDR3  
5 unique J



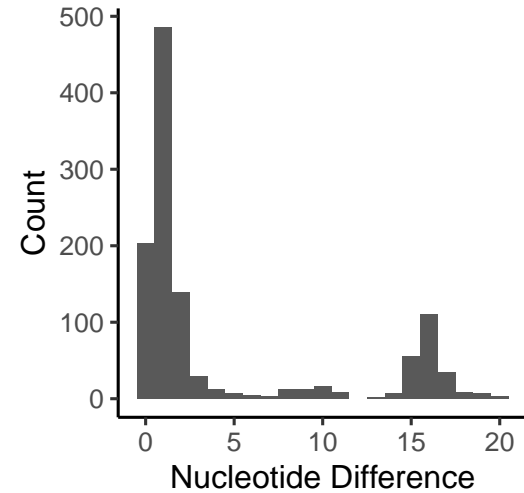
### IGHV1-8\*02

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



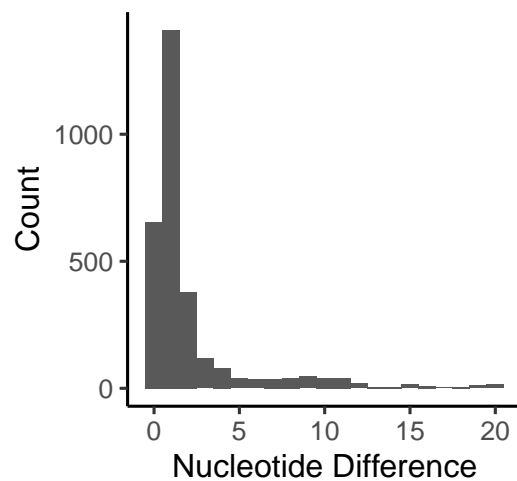
### IGHV1-24\*01

1168 sequences assigned  
203 (17.4%) exact matches, in which:  
119 unique CDR3  
6 unique J



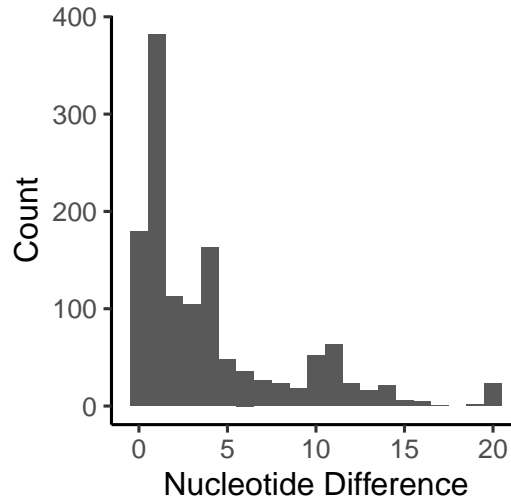
### IGHV1-3\*01\_05

3635 sequences assigned  
655 (18%) exact matches, in which:  
413 unique CDR3  
6 unique J



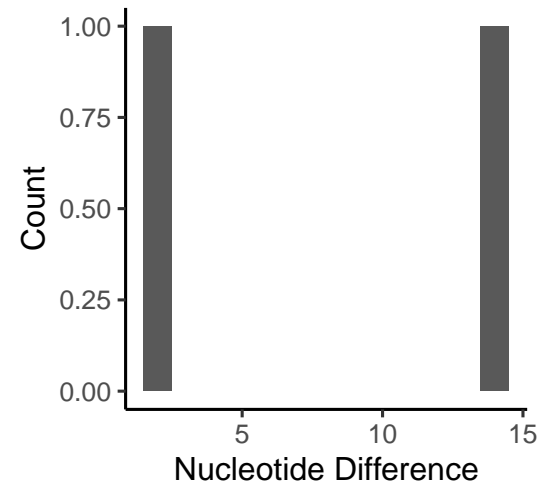
### IGHV1-18\*01

1440 sequences assigned  
179 (12.4%) exact matches, in which:  
137 unique CDR3  
6 unique J



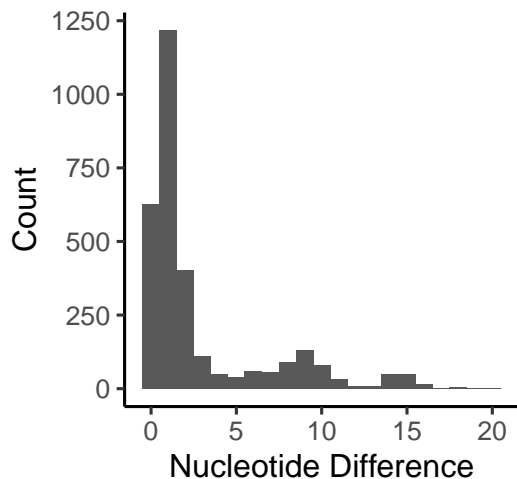
### IGHV1-45\*02

4 sequences assigned  
No exact matches.



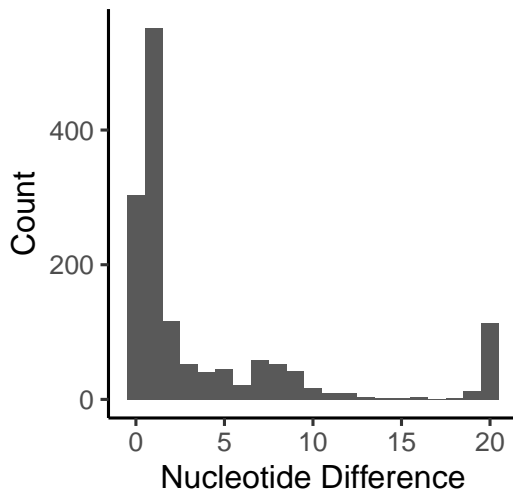
### IGHV1-46\*01

3079 sequences assigned  
626 (20.3%) exact matches, in which:  
472 unique CDR3  
6 unique J



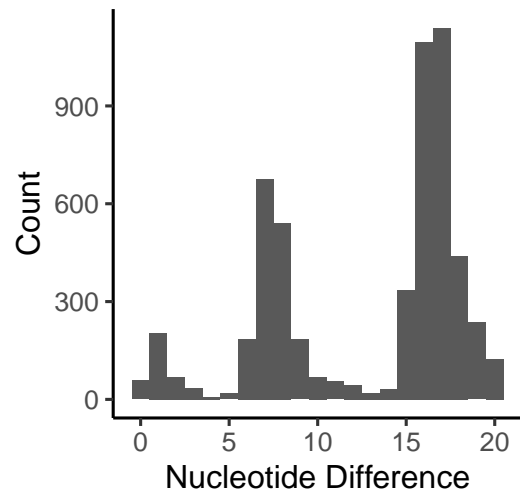
### IGHV1-69\*06\_14

1885 sequences assigned  
304 (16.1%) exact matches, in which:  
227 unique CDR3  
6 unique J



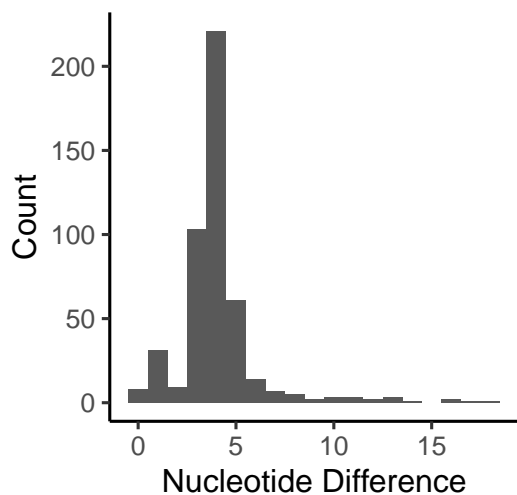
### IGHV2-5\*02

5815 sequences assigned  
58 (1%) exact matches, in which:  
33 unique CDR3  
2 unique J



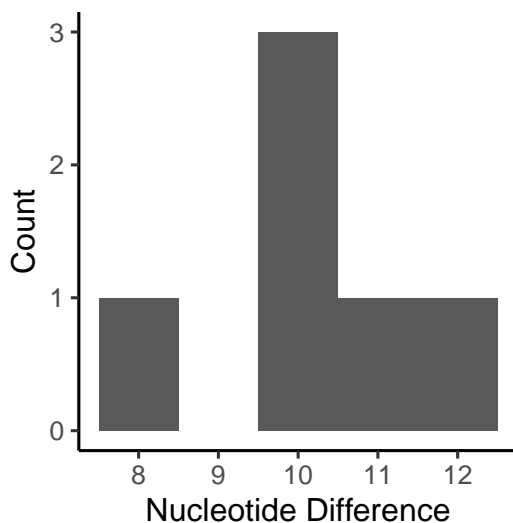
### IGHV1-58\*01\_03

477 sequences assigned  
8 (1.7%) exact matches, in which:  
5 unique CDR3  
2 unique J



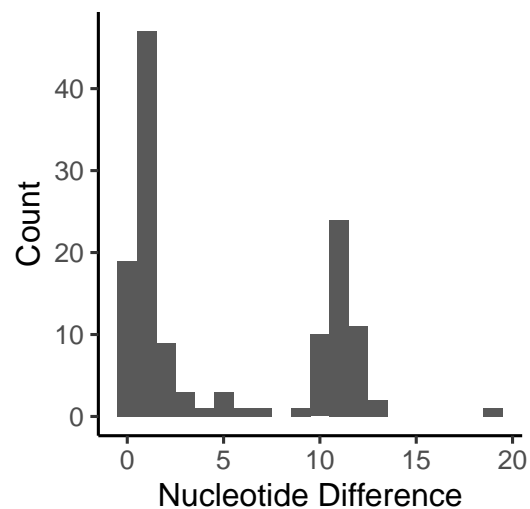
### IGHV1-NL1\*01

6 sequences assigned  
No exact matches.



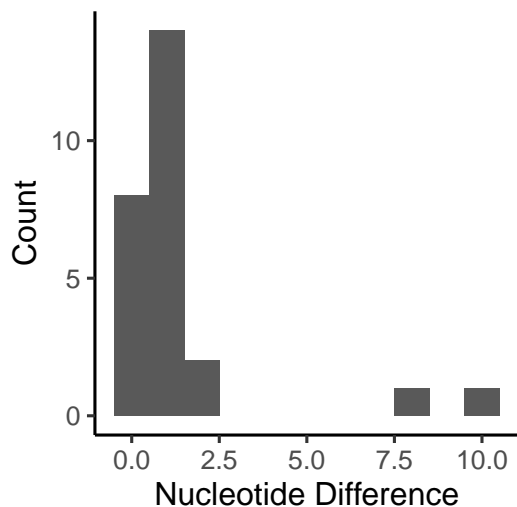
### IGHV2-26\*01

133 sequences assigned  
19 (14.3%) exact matches, in which:  
12 unique CDR3  
3 unique J



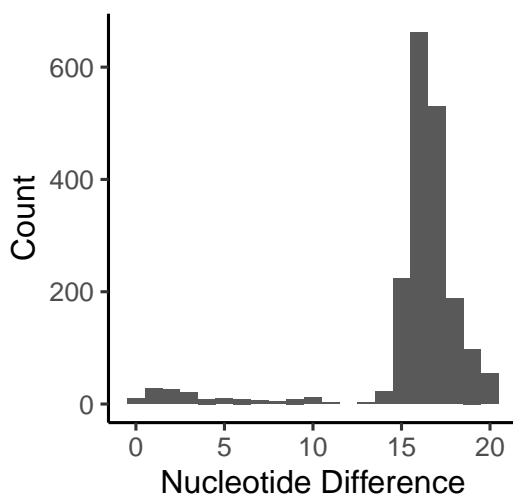
### IGHV1-69-2\*01

26 sequences assigned  
8 (30.8%) exact matches, in which:  
7 unique CDR3  
1 unique J



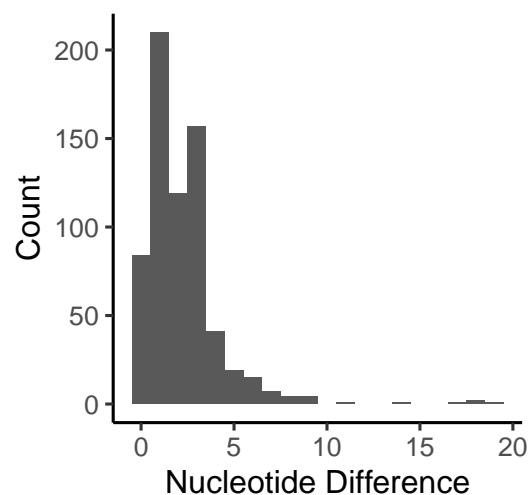
### IGHV2-5\*01

2047 sequences assigned  
10 (0.5%) exact matches, in which:  
9 unique CDR3  
4 unique J



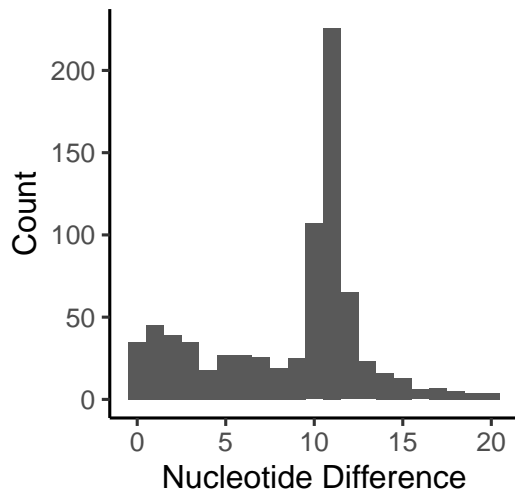
### IGHV2-70\*01

666 sequences assigned  
84 (12.6%) exact matches, in which:  
57 unique CDR3  
4 unique J



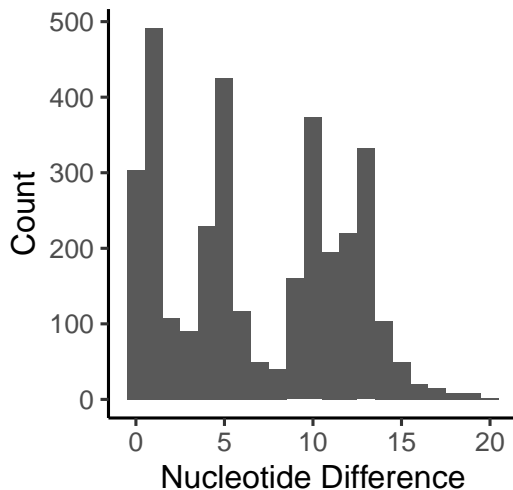
### IGHV3-7\*01

775 sequences assigned  
35 (4.5%) exact matches, in which:  
31 unique CDR3  
4 unique J



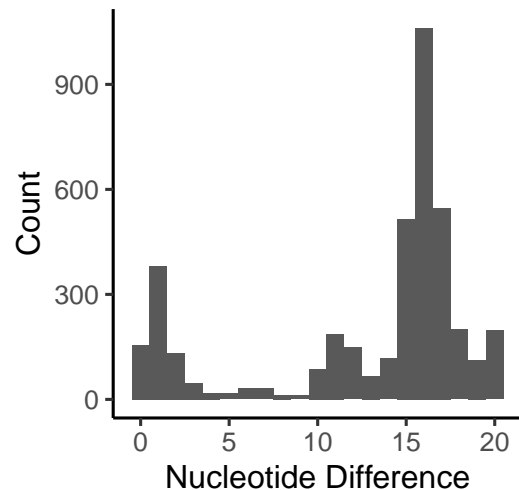
### IGHV3-11\*06

3718 sequences assigned  
304 (8.2%) exact matches, in which:  
198 unique CDR3  
5 unique J



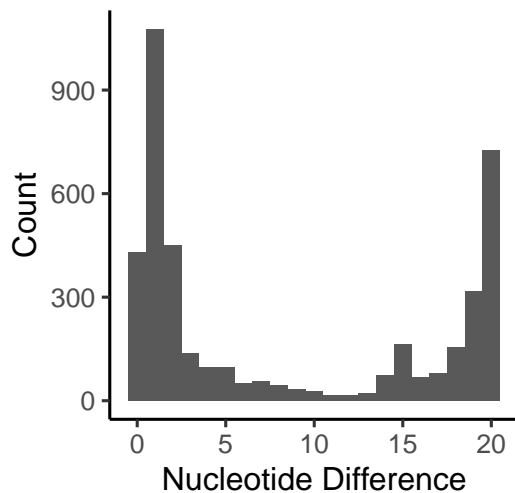
### IGHV3-15\*01\_02

6201 sequences assigned  
156 (2.5%) exact matches, in which:  
90 unique CDR3  
4 unique J



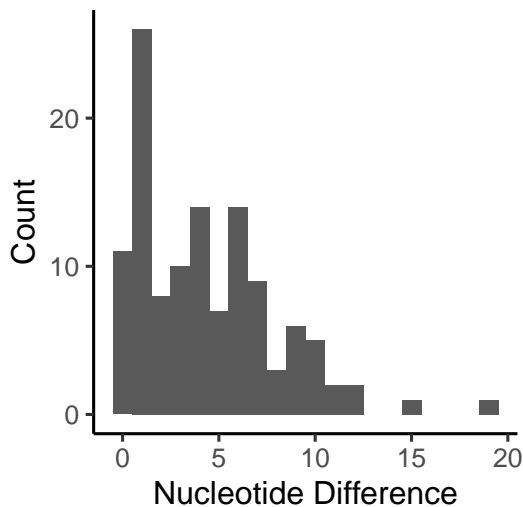
### IGHV3-7\*03

5013 sequences assigned  
430 (8.6%) exact matches, in which:  
236 unique CDR3  
5 unique J



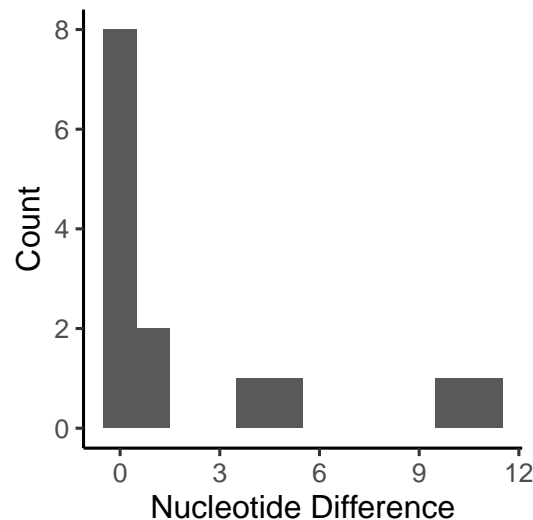
### IGHV3-11\*03\_05

120 sequences assigned  
11 (9.2%) exact matches, in which:  
9 unique CDR3  
4 unique J



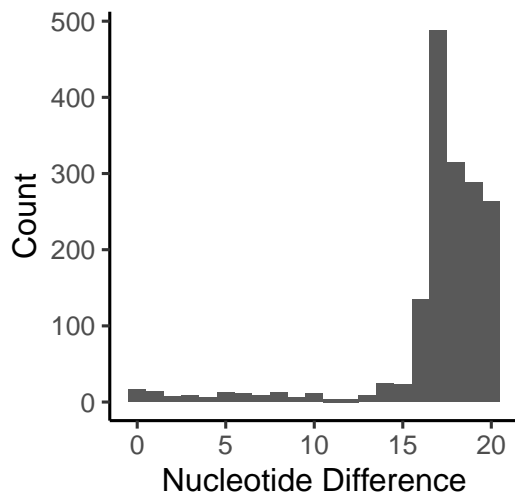
### IGHV3-19\*01

14 sequences assigned  
8 (57.1%) exact matches, in which:  
8 unique CDR3  
3 unique J



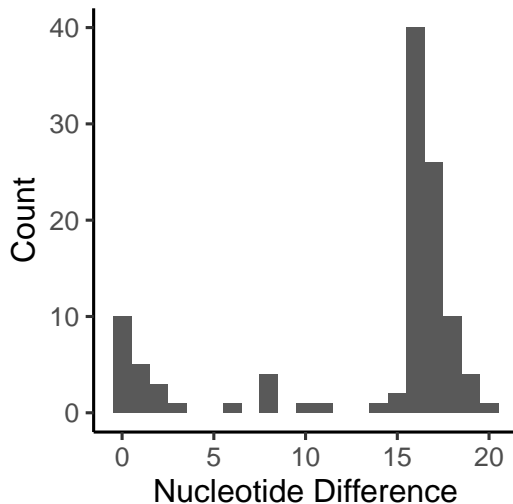
### IGHV3-7\*05

1799 sequences assigned  
16 (0.9%) exact matches, in which:  
14 unique CDR3  
3 unique J



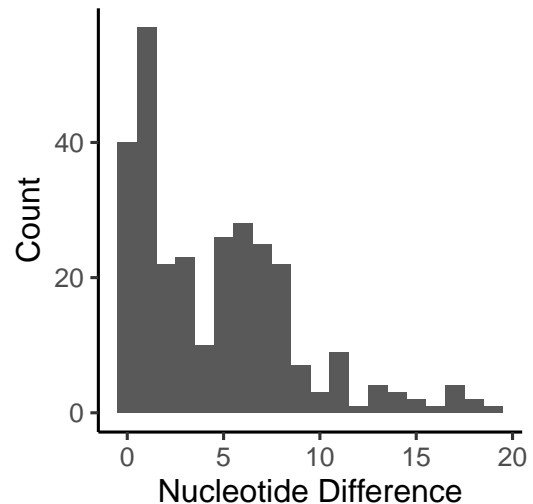
### IGHV3-13\*05

117 sequences assigned  
10 (8.5%) exact matches, in which:  
9 unique CDR3  
3 unique J



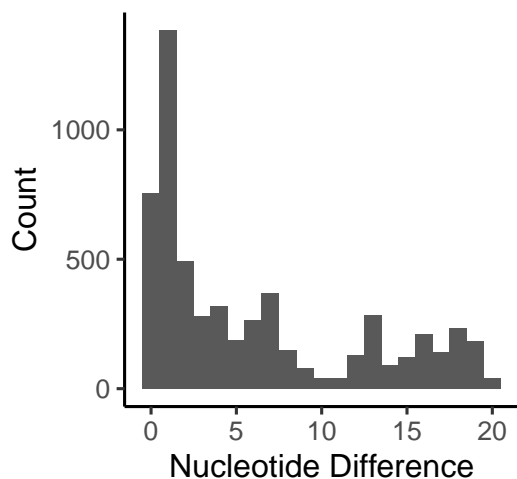
### IGHV3-21\*04

296 sequences assigned  
40 (13.5%) exact matches, in which:  
29 unique CDR3  
4 unique J



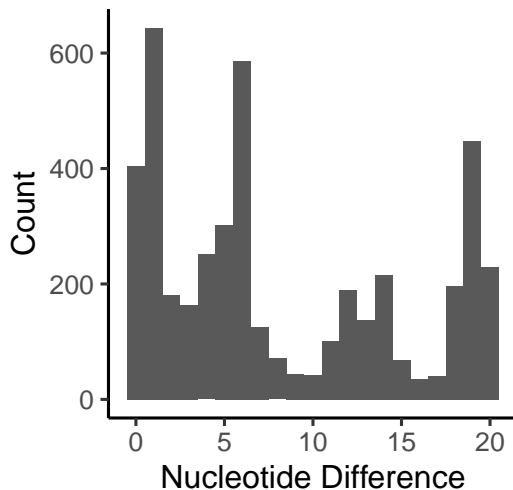
### IGHV3-21\*01\_02

5855 sequences assigned  
754 (12.9%) exact matches, in which:  
456 unique CDR3  
6 unique J



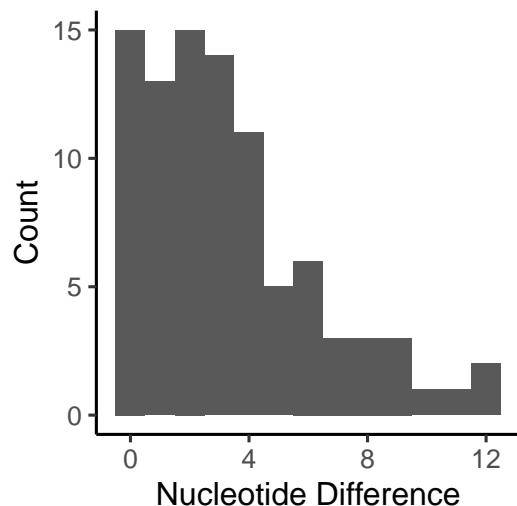
### IGHV3-30\*03

6874 sequences assigned  
405 (5.9%) exact matches, in which:  
271 unique CDR3  
6 unique J



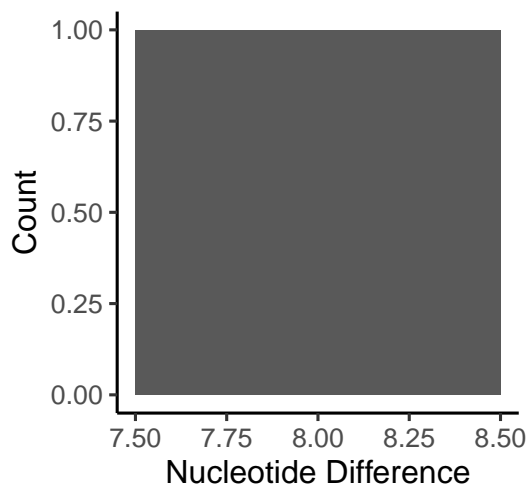
### IGHV3-33\*05

93 sequences assigned  
15 (16.1%) exact matches, in which:  
12 unique CDR3  
3 unique J



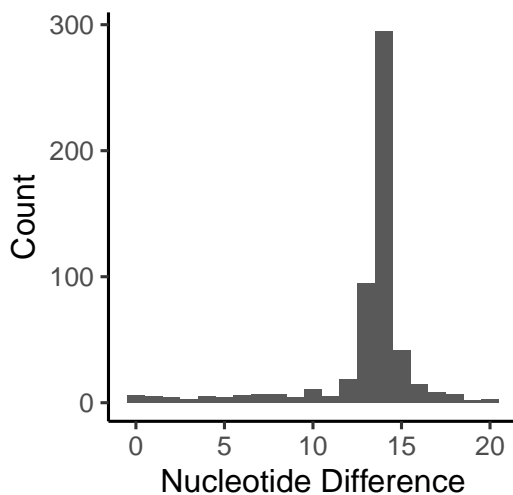
### IGHV3-22\*01\_02

1 sequences assigned  
No exact matches.



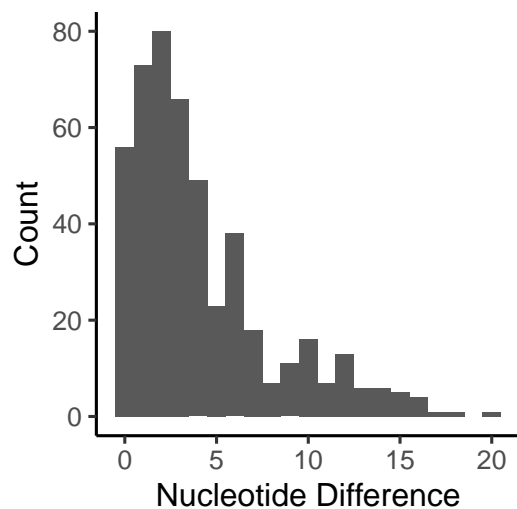
### IGHV3-30-3\*03

567 sequences assigned  
6 (1.1%) exact matches, in which:  
4 unique CDR3  
1 unique J



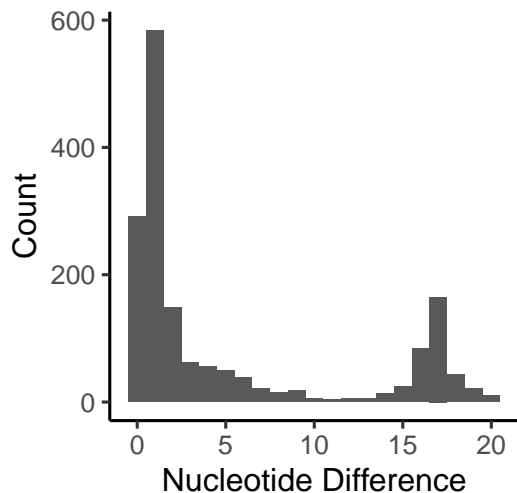
### IGHV3-33\*06

507 sequences assigned  
56 (11%) exact matches, in which:  
42 unique CDR3  
4 unique J



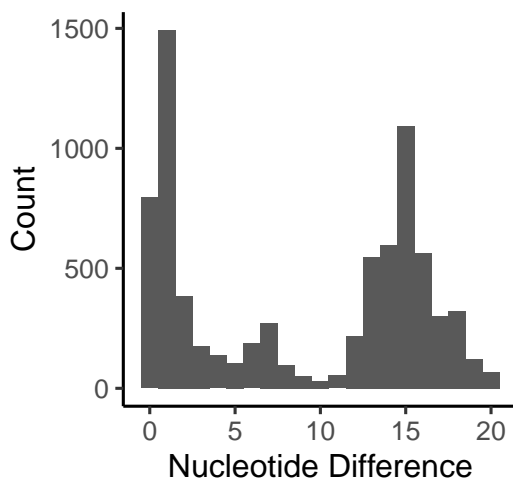
### IGHV3-30-3\*01

2057 sequences assigned  
291 (14.1%) exact matches, in which:  
163 unique CDR3  
6 unique J



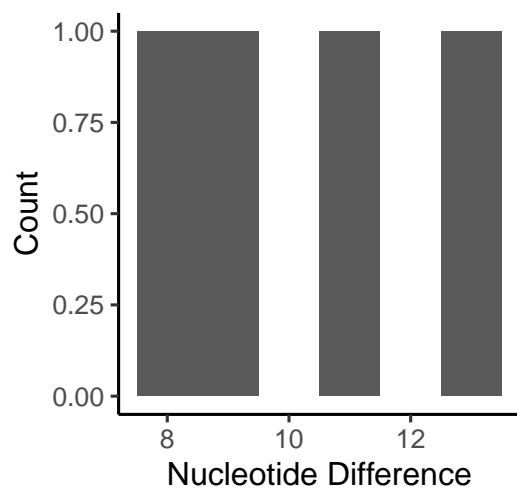
### IGHV3-33\*01

7744 sequences assigned  
795 (10.3%) exact matches, in which:  
449 unique CDR3  
6 unique J



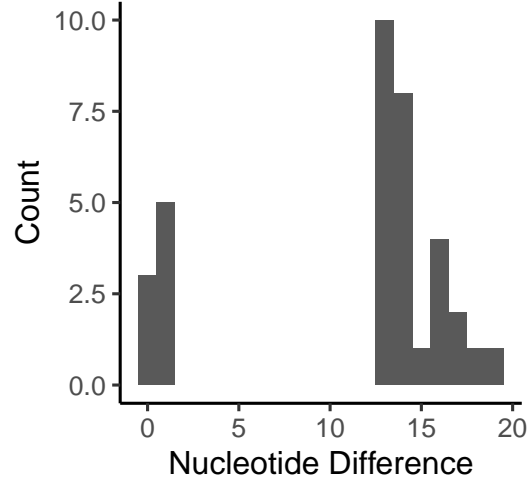
### IGHV3-35\*01

4 sequences assigned  
No exact matches.



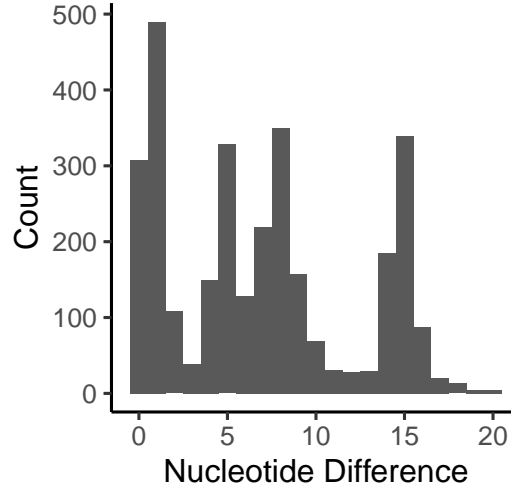
### IGHV3-43\*01

36 sequences assigned  
3 (8.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



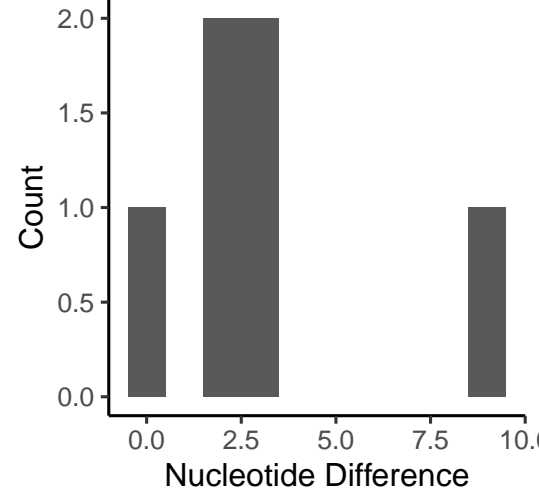
### IGHV3-48\*02

3095 sequences assigned  
308 (10%) exact matches, in which:  
179 unique CDR3  
5 unique J



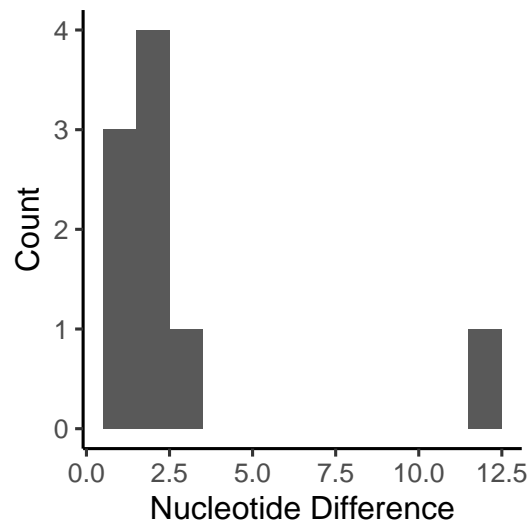
### IGHV3-52\*01\_03

6 sequences assigned  
1 (16.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



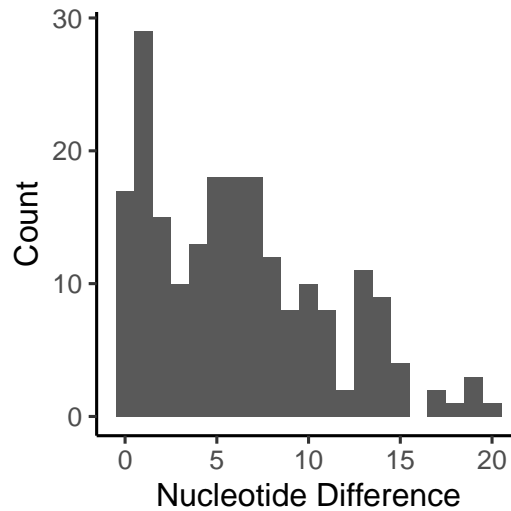
### IGHV3-47\*02

9 sequences assigned  
No exact matches.



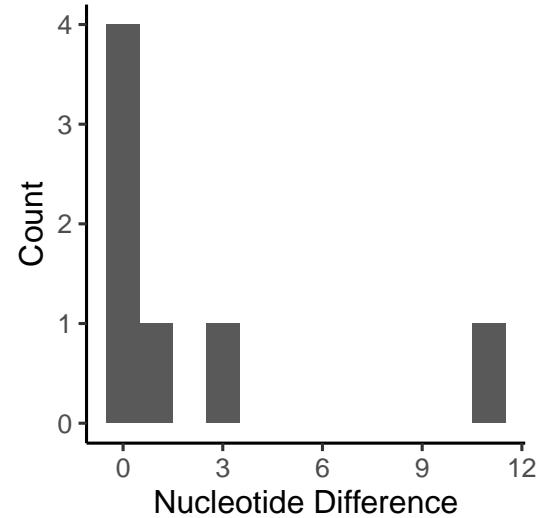
### IGHV3-48\*04

221 sequences assigned  
17 (7.7%) exact matches, in which:  
13 unique CDR3  
5 unique J



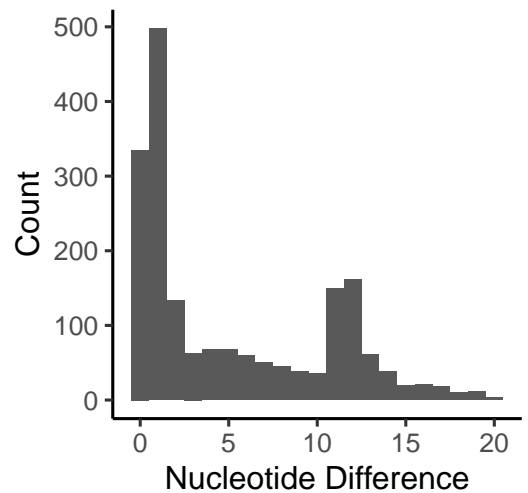
### IGHV3-53\*05

7 sequences assigned  
4 (57.1%) exact matches, in which:  
3 unique CDR3  
1 unique J



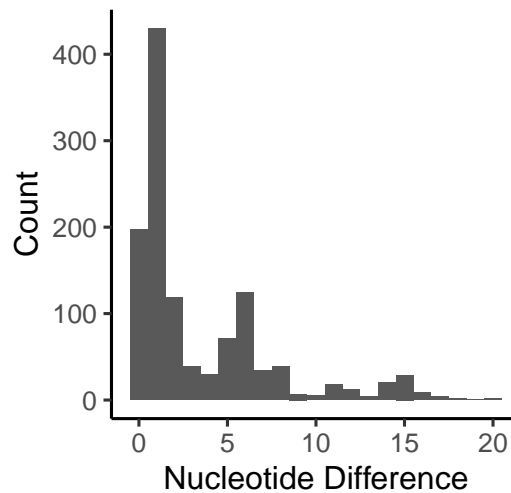
### IGHV3-48\*01

3775 sequences assigned  
335 (8.9%) exact matches, in which:  
206 unique CDR3  
6 unique J



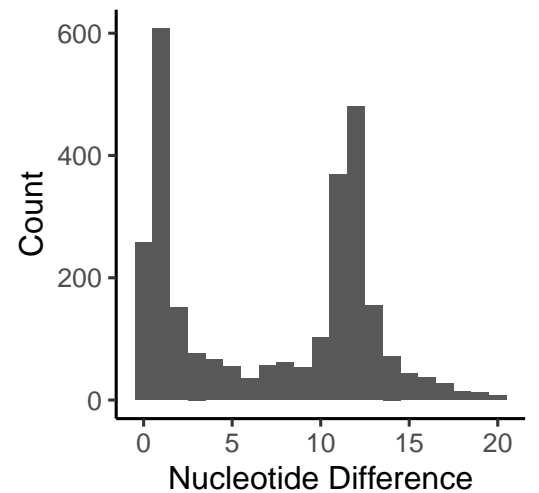
### IGHV3-49\*03\_05

1197 sequences assigned  
197 (16.5%) exact matches, in which:  
107 unique CDR3  
4 unique J



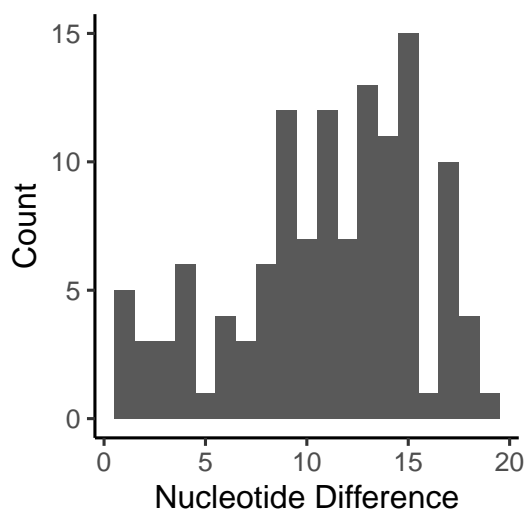
### IGHV3-53\*01\_02

2757 sequences assigned  
257 (9.3%) exact matches, in which:  
148 unique CDR3  
4 unique J



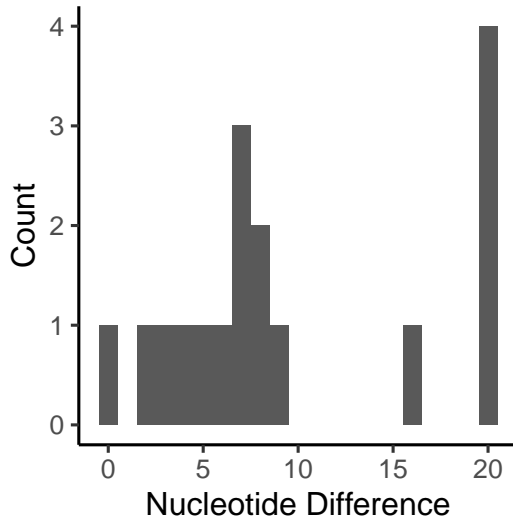
### IGHV3-64\*04

125 sequences assigned  
No exact matches.



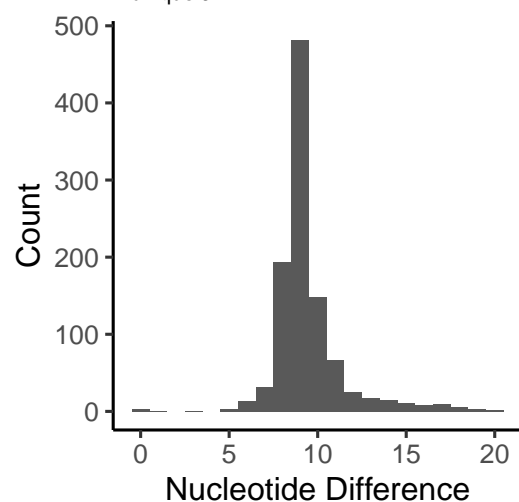
### IGHV3-66\*03

18 sequences assigned  
1 (5.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



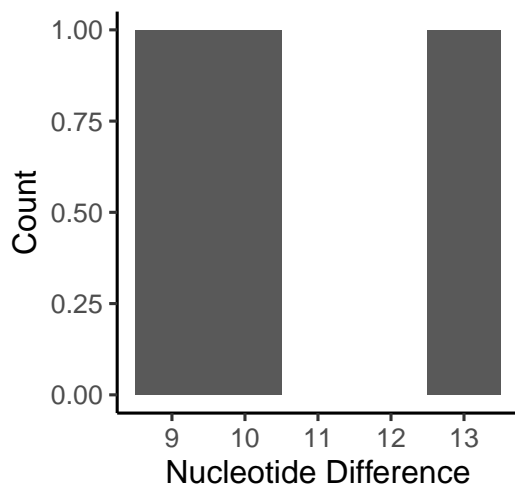
### IGHV3-72\*01

1053 sequences assigned  
3 (0.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



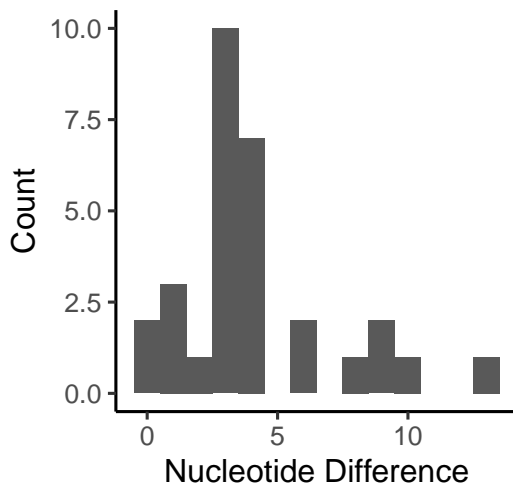
### IGHV3-66\*01

4 sequences assigned  
No exact matches.



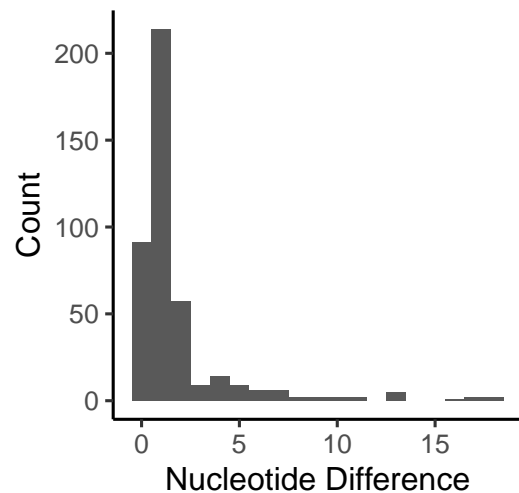
### IGHV3-69-1\*01

30 sequences assigned  
2 (6.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



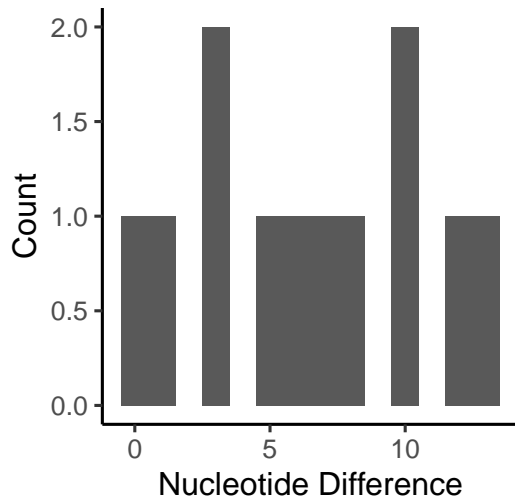
### IGHV3-73\*01\_02

426 sequences assigned  
91 (21.4%) exact matches, in which:  
45 unique CDR3  
2 unique J



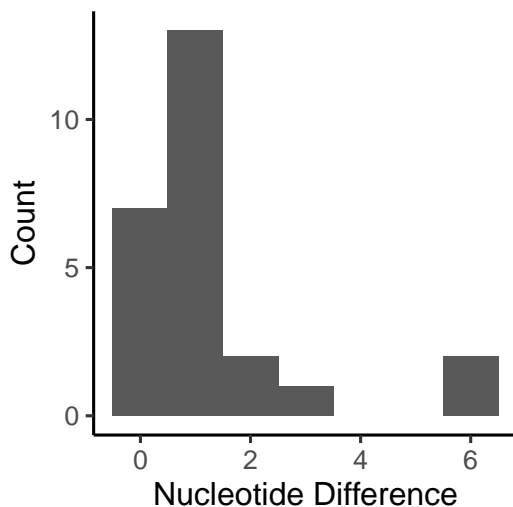
### IGHV3-66\*02

13 sequences assigned  
1 (7.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



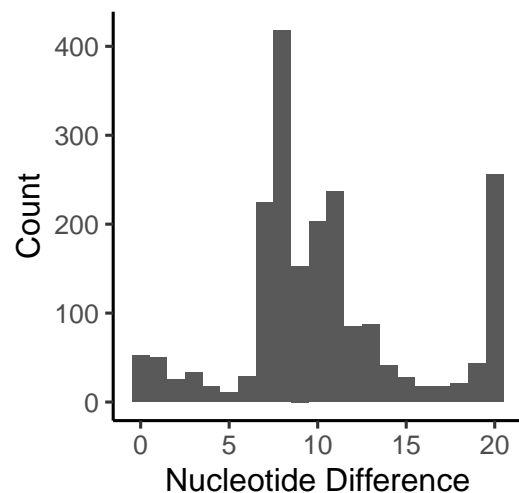
### IGHV3-69-1\*02

25 sequences assigned  
7 (28%) exact matches, in which:  
4 unique CDR3  
3 unique J



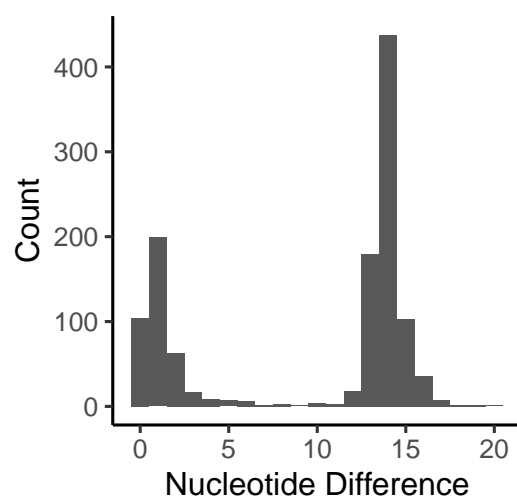
### IGHV3-74\*01\_02

3160 sequences assigned  
52 (1.6%) exact matches, in which:  
34 unique CDR3  
4 unique J



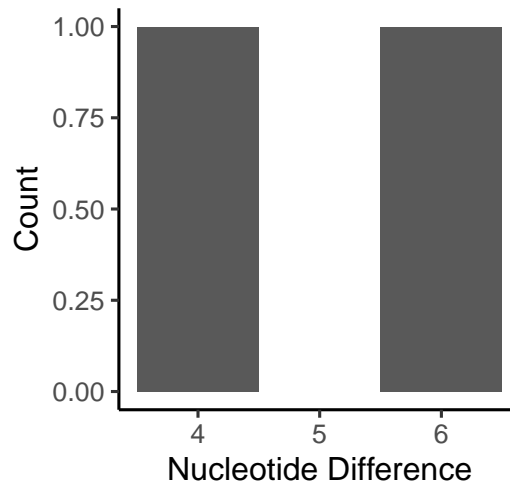
### IGHV3-64D\*06

1222 sequences assigned  
104 (8.5%) exact matches, in which:  
68 unique CDR3  
2 unique J



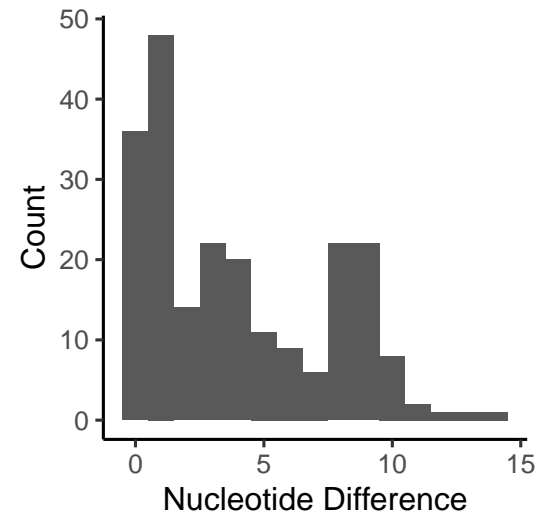
### IGHV4-28\*03

2 sequences assigned  
No exact matches.



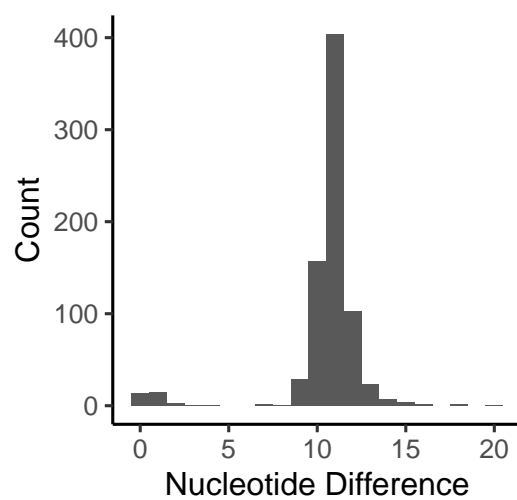
### IGHV4-30-4\*01

1478 sequences assigned  
36 (2.4%) exact matches, in which:  
27 unique CDR3  
5 unique J



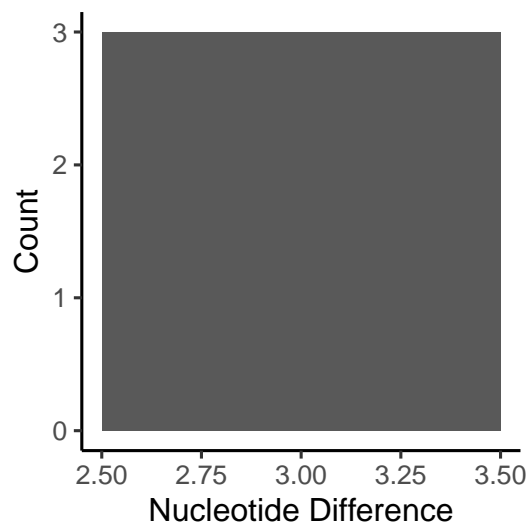
### IGHV3-64D\*08

773 sequences assigned  
14 (1.8%) exact matches, in which:  
10 unique CDR3  
3 unique J



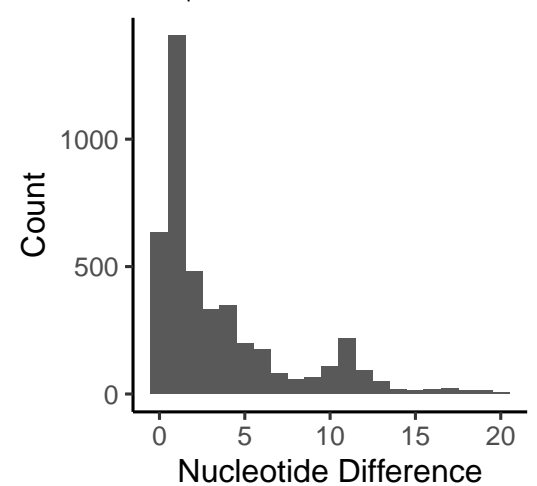
### IGHV4-28\*01\_07

3 sequences assigned  
No exact matches.



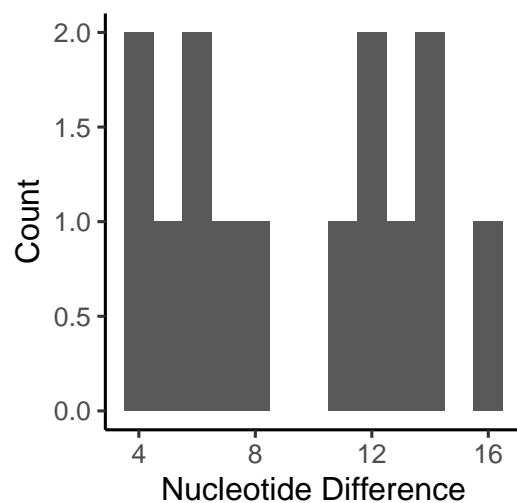
### IGHV4-31\*03\_04

4949 sequences assigned  
633 (12.8%) exact matches, in which:  
411 unique CDR3  
6 unique J



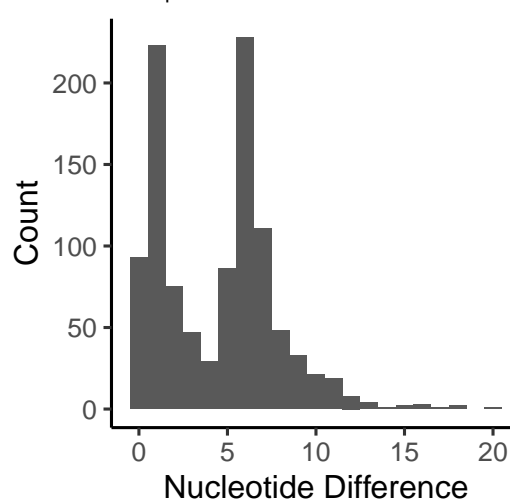
### IGHV3-NL1\*01

19 sequences assigned  
No exact matches.



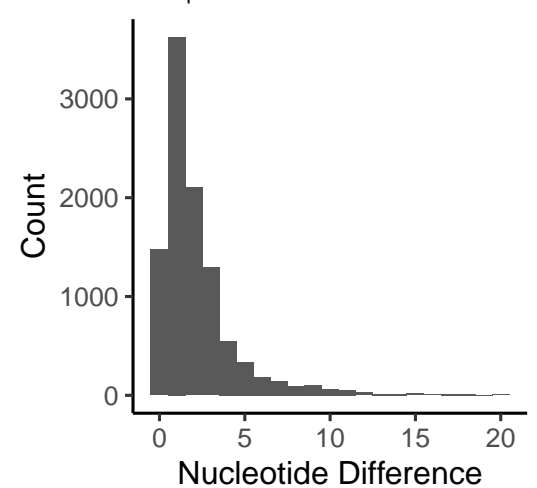
### IGHV4-30-2\*01

1045 sequences assigned  
93 (8.9%) exact matches, in which:  
58 unique CDR3  
5 unique J



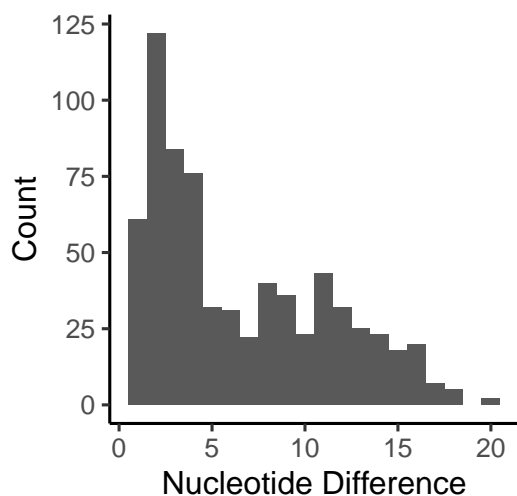
### IGHV4-34\*01\_02

10240 sequences assigned  
1477 (14.4%) exact matches, in which:  
920 unique CDR3  
6 unique J



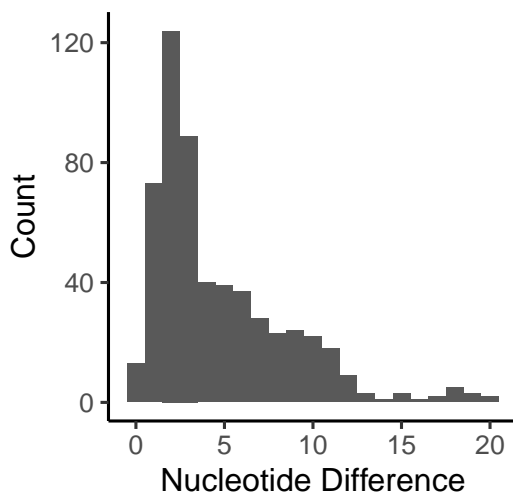
### IGHV4-39\*07

729 sequences assigned  
No exact matches.



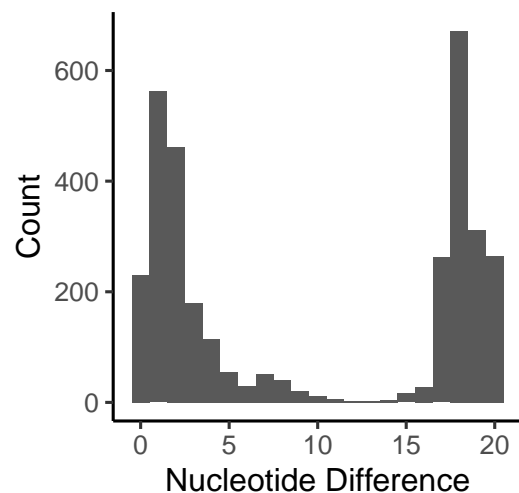
### IGHV4-59\*12

586 sequences assigned  
13 (2.2%) exact matches, in which:  
13 unique CDR3  
4 unique J



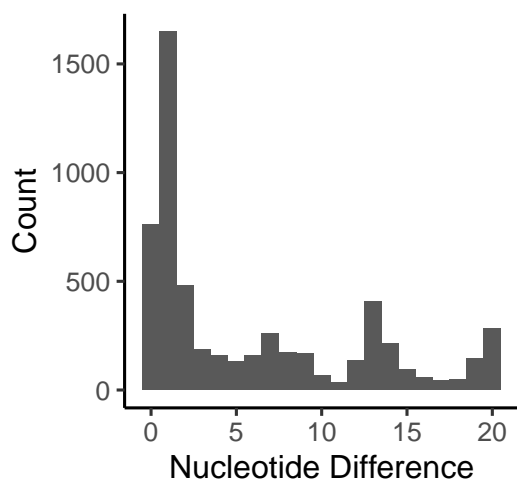
### IGHV5-10-1\*01\_03

5752 sequences assigned  
231 (4%) exact matches, in which:  
145 unique CDR3  
4 unique J



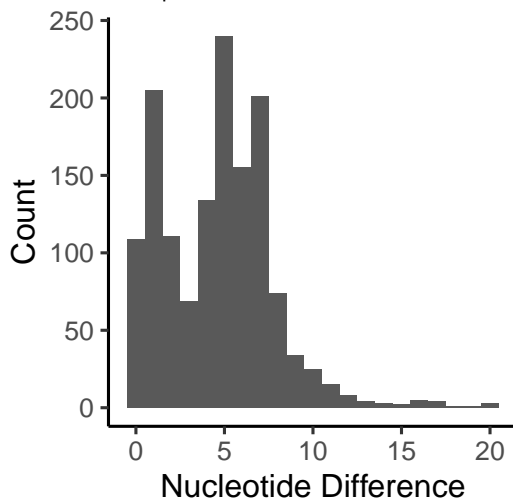
### IGHV4-39\*01\_05

5910 sequences assigned  
760 (12.9%) exact matches, in which:  
508 unique CDR3  
6 unique J



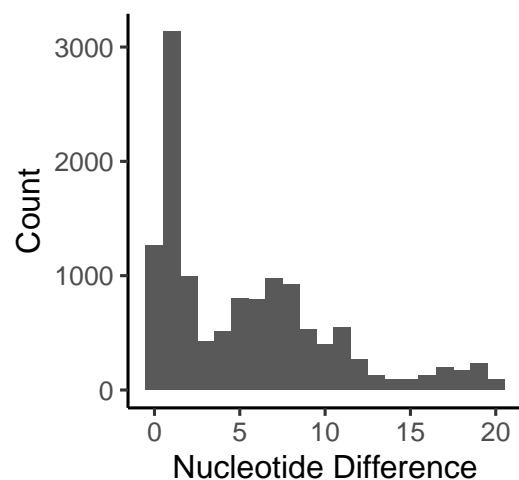
### IGHV4-61\*01

1442 sequences assigned  
109 (7.6%) exact matches, in which:  
87 unique CDR3  
5 unique J



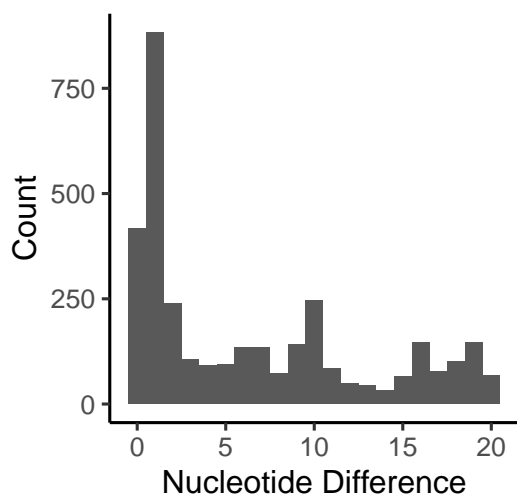
### IGHV5-51\*01\_03

12785 sequences assigned  
1268 (9.9%) exact matches, in which:  
703 unique CDR3  
5 unique J



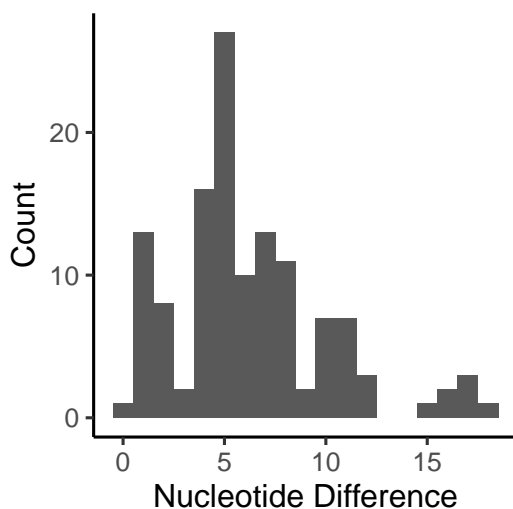
### IGHV4-59\*01\_07

9510 sequences assigned  
417 (4.4%) exact matches, in which:  
292 unique CDR3  
6 unique J



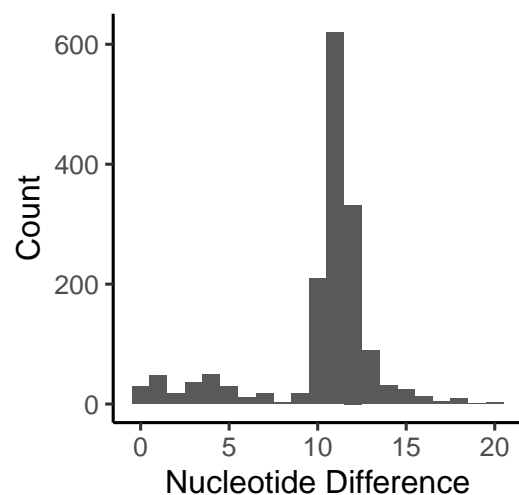
### IGHV4-61\*08

129 sequences assigned  
1 (0.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



### IGHV6-1\*01\_02

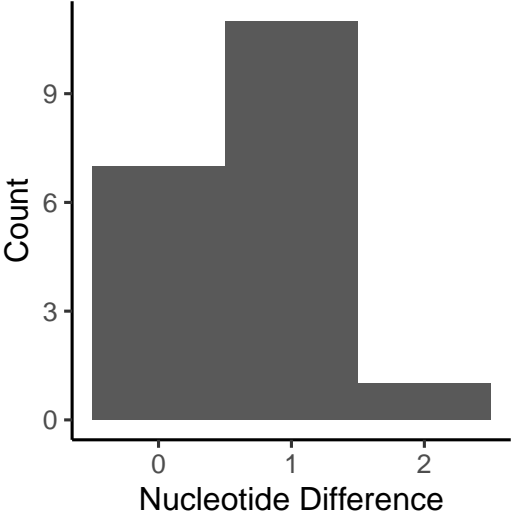
1601 sequences assigned  
29 (1.8%) exact matches, in which:  
25 unique CDR3  
6 unique J





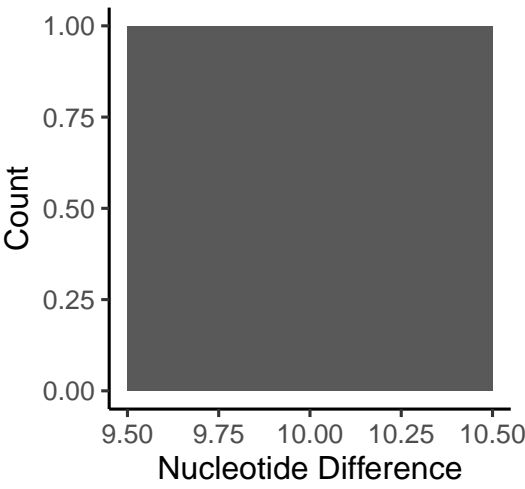
# IGHV7-4-1\*01

19 sequences assigned  
7 (36.8%) exact matches, in which:  
6 unique CDR3  
1 unique J



# IGHV7-4-1\*02

1 sequences assigned  
No exact matches.





Novel sequence(s)IGHV3-51\*07\_T258C are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV3-30-3\*01\_T288CIGHV4-59\*02\_G88AIGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV3-30\*03\_T288C are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Novel sequence(s)IGHV3-33\*01\_G75CIGHV4-59\*02\_G88AIGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV3-33\*01\_G75CIGHV4-59\*02\_G88AIGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV3-30\*03\_T288CIGHV4-59\*02\_G88AIGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Novel sequence(s)IGHV1-69\*04\_09\_G112AIGHV4-59\*02\_G88AIGHV5-10-1\*01\_03\_T258CIGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.