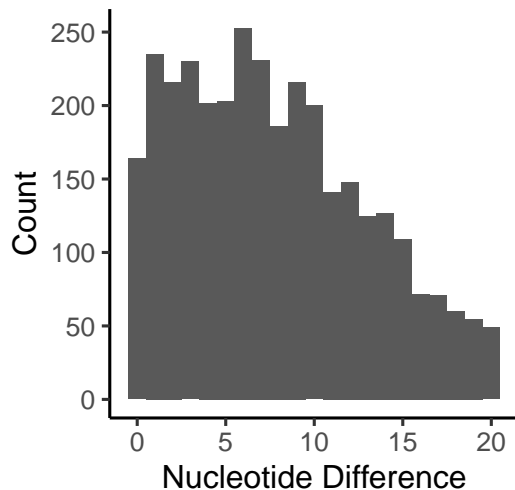


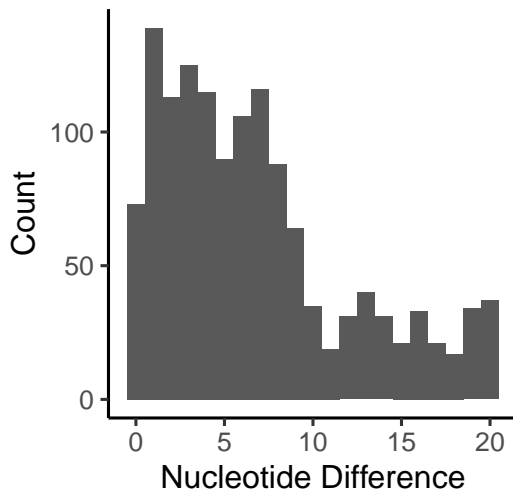
### IGHV1-2\*02

3597 sequences assigned  
164 (4.6%) exact matches, in which:  
145 unique CDR3  
7 unique J



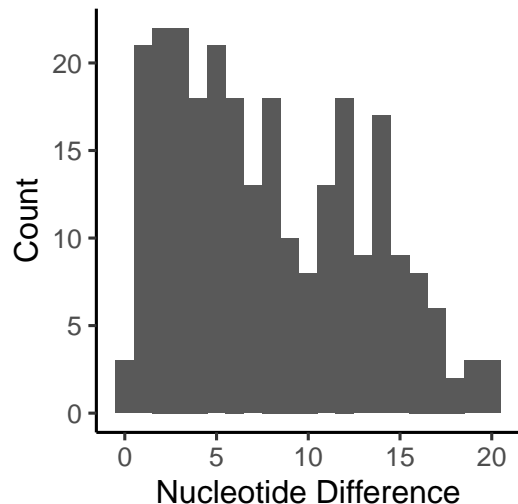
### IGHV1-8\*01

1383 sequences assigned  
73 (5.3%) exact matches, in which:  
70 unique CDR3  
5 unique J



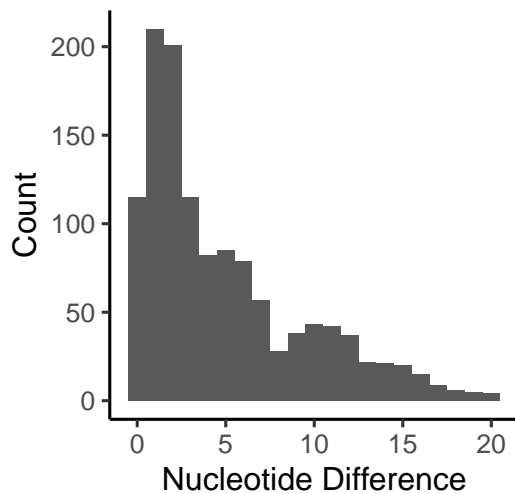
### IGHV1-24\*01

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



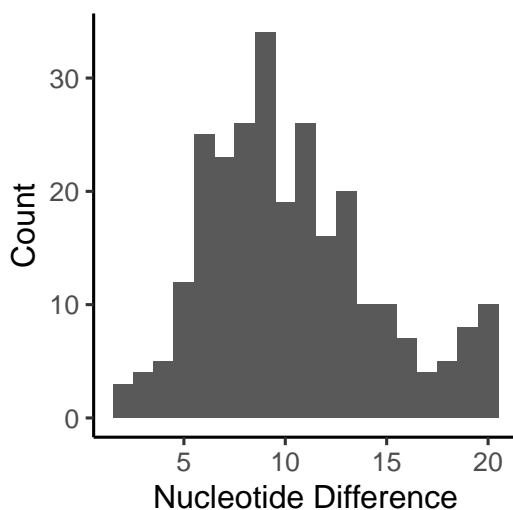
### IGHV1-2\*04

1239 sequences assigned  
115 (9.3%) exact matches, in which:  
101 unique CDR3  
6 unique J



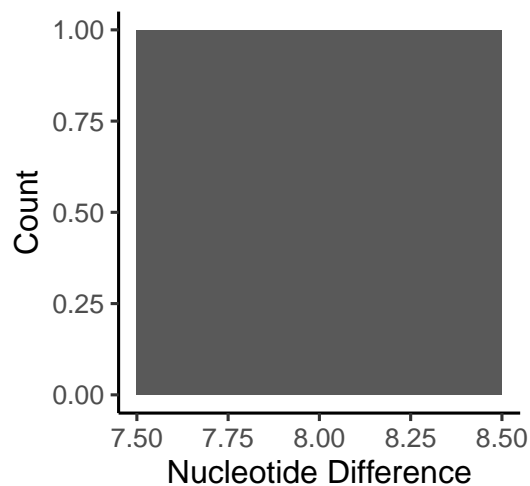
### IGHV1-8\*02

284 sequences assigned  
No exact matches.



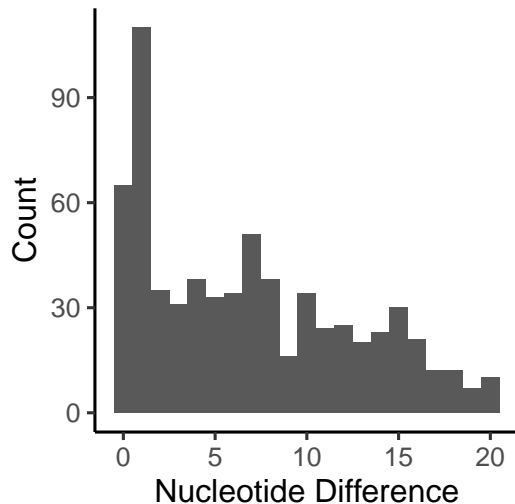
### IGHV1-38-4\*01

1 sequences assigned  
No exact matches.



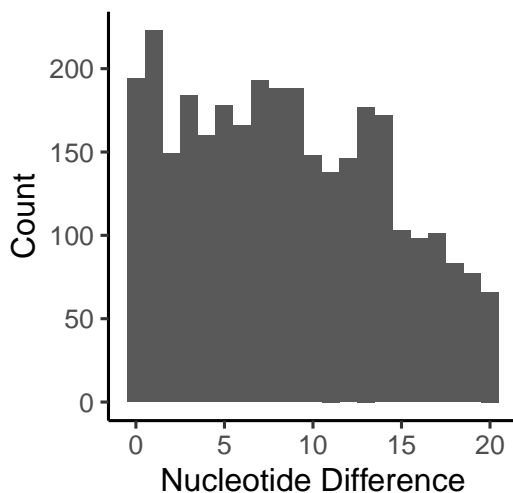
### IGHV1-3\*01\_05

697 sequences assigned  
65 (9.3%) exact matches, in which:  
44 unique CDR3  
4 unique J



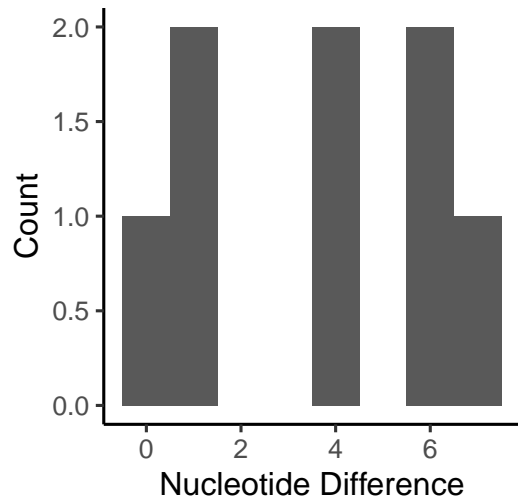
### IGHV1-18\*01

3455 sequences assigned  
194 (5.6%) exact matches, in which:  
160 unique CDR3  
7 unique J



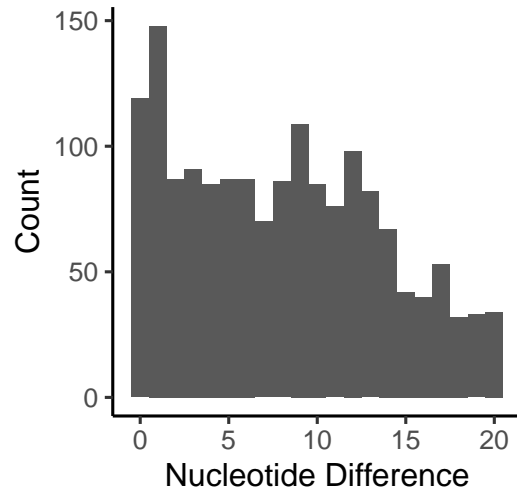
### IGHV1-45\*02

8 sequences assigned  
1 (12.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



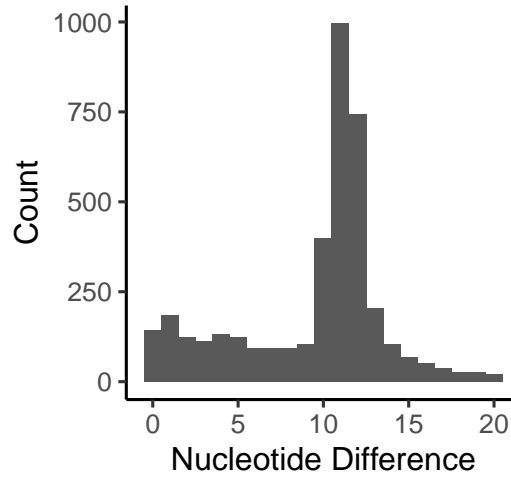
### IGHV1-46\*01

1815 sequences assigned  
119 (6.6%) exact matches, in which:  
108 unique CDR3  
5 unique J



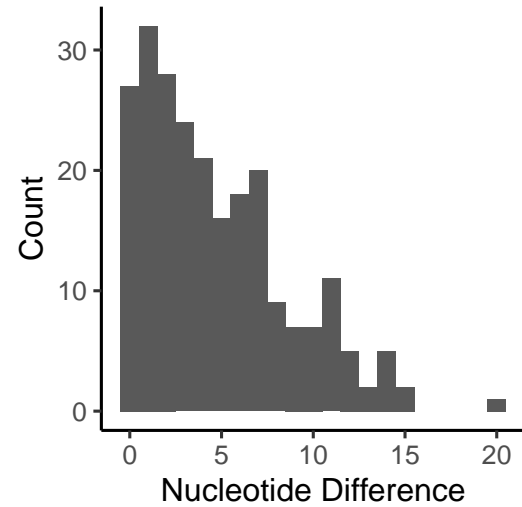
### IGHV1-69\*01\_12\_13

4011 sequences assigned  
143 (3.6%) exact matches, in which:  
123 unique CDR3  
7 unique J



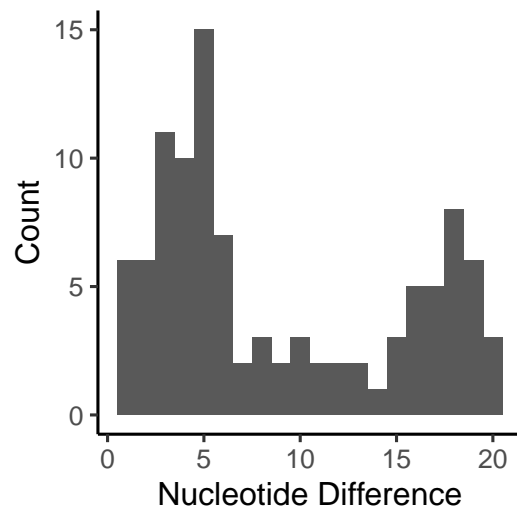
### IGHV2-26\*01

242 sequences assigned  
27 (11.2%) exact matches, in which:  
22 unique CDR3  
4 unique J



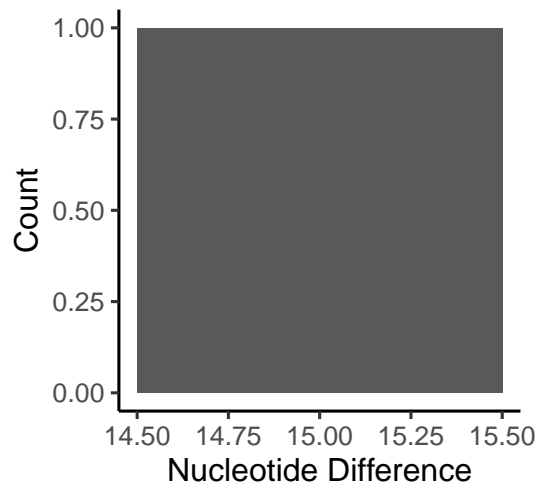
### IGHV1-58\*01\_03

111 sequences assigned  
No exact matches.



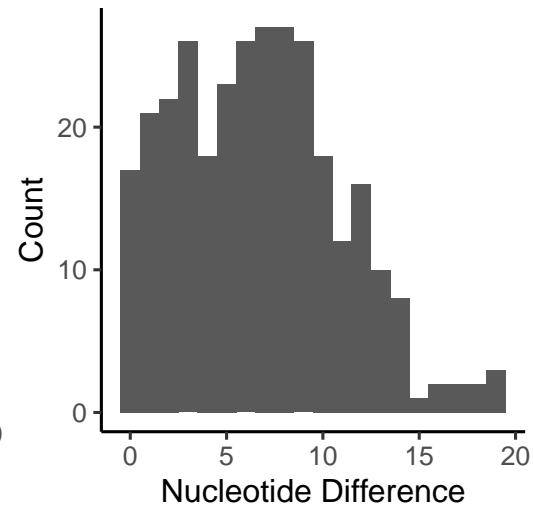
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



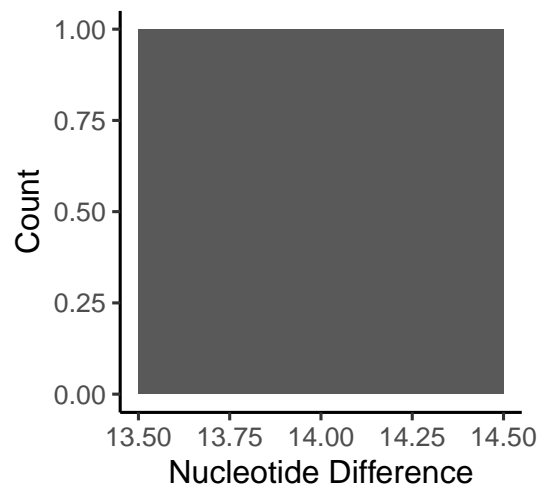
### IGHV2-70\*01

321 sequences assigned  
17 (5.3%) exact matches, in which:  
15 unique CDR3  
4 unique J



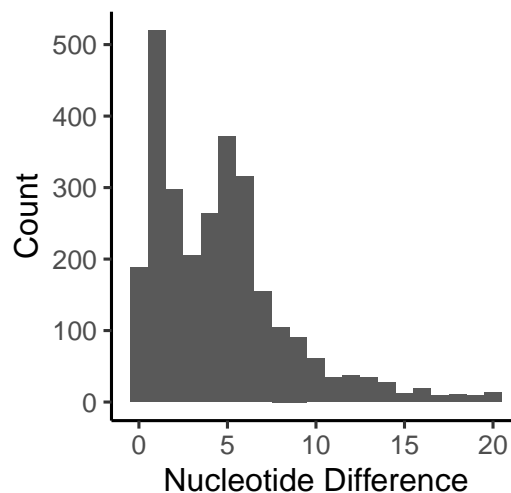
### IGHV1-69-2\*01

1 sequences assigned  
No exact matches.



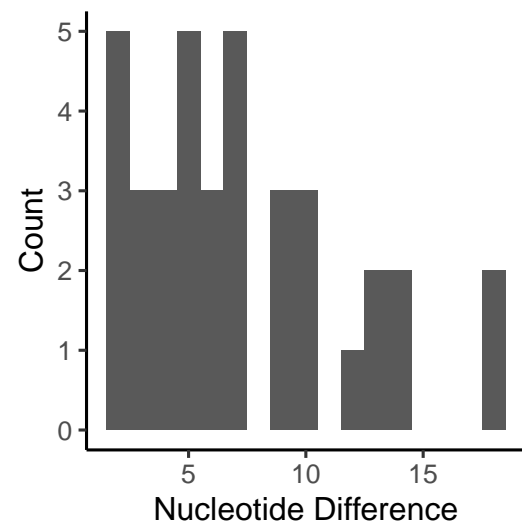
### IGHV2-5\*02

2797 sequences assigned  
188 (6.7%) exact matches, in which:  
120 unique CDR3  
6 unique J



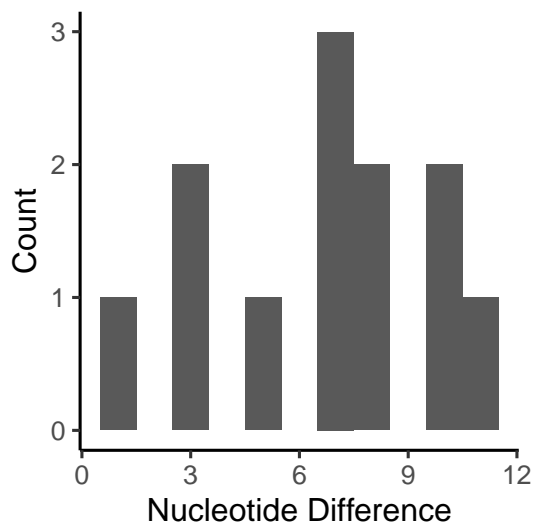
### IGHV2-70\*12

37 sequences assigned  
No exact matches.



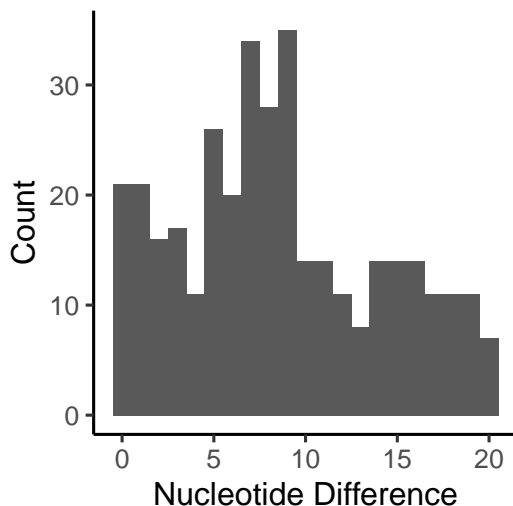
### IGHV2-70D\*04

12 sequences assigned  
No exact matches.



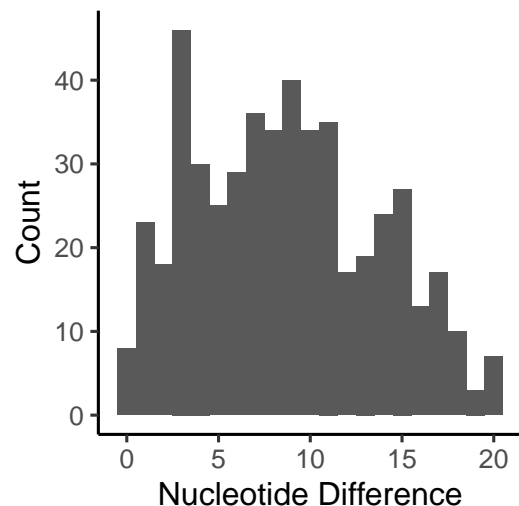
### IGHV3-7\*04

382 sequences assigned  
21 (5.5%) exact matches, in which:  
15 unique CDR3  
6 unique J



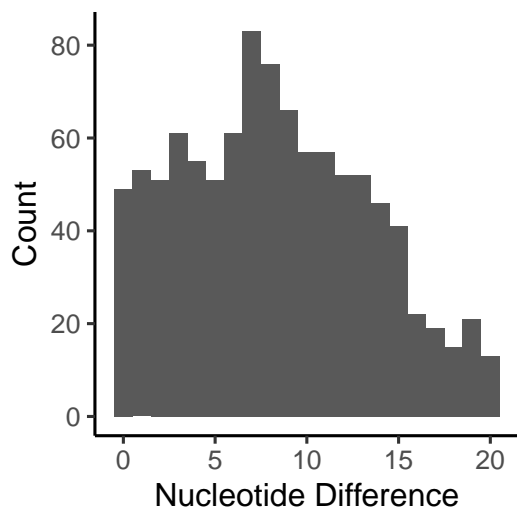
### IGHV3-11\*06

544 sequences assigned  
8 (1.5%) exact matches, in which:  
7 unique CDR3  
3 unique J



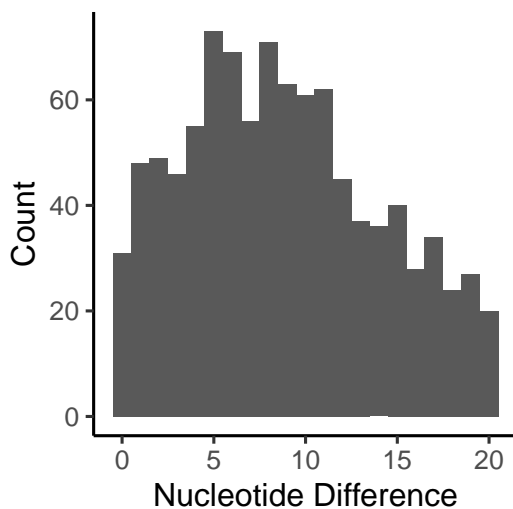
### IGHV3-7\*01

1063 sequences assigned  
49 (4.6%) exact matches, in which:  
44 unique CDR3  
6 unique J



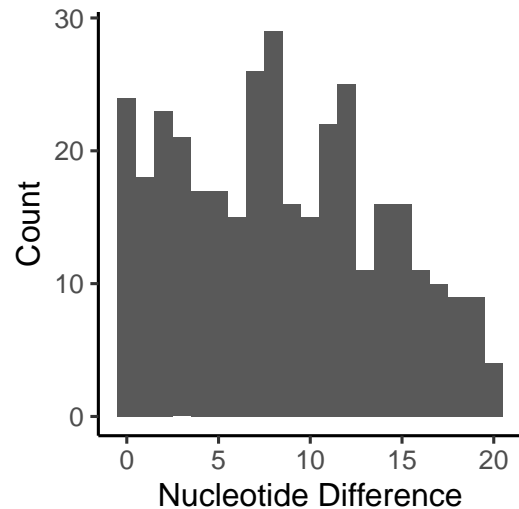
### IGHV3-9\*01

1055 sequences assigned  
31 (2.9%) exact matches, in which:  
25 unique CDR3  
5 unique J



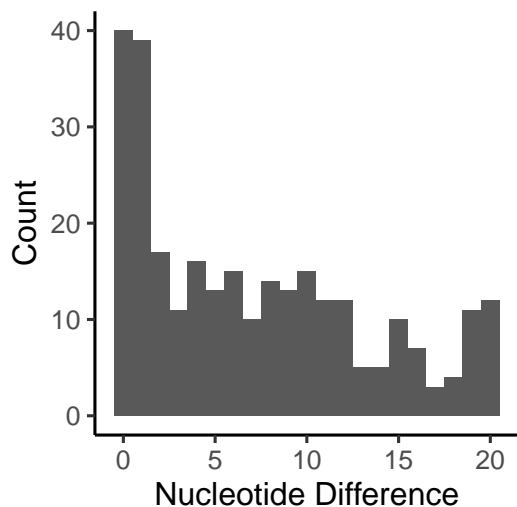
### IGHV3-11\*03\_05

372 sequences assigned  
24 (6.5%) exact matches, in which:  
15 unique CDR3  
4 unique J



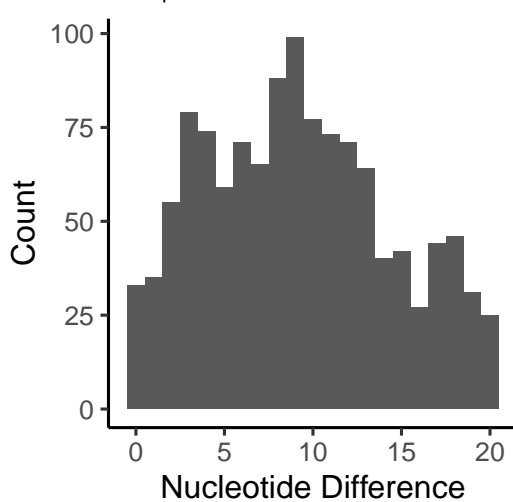
### IGHV3-7\*03

346 sequences assigned  
40 (11.6%) exact matches, in which:  
25 unique CDR3  
3 unique J



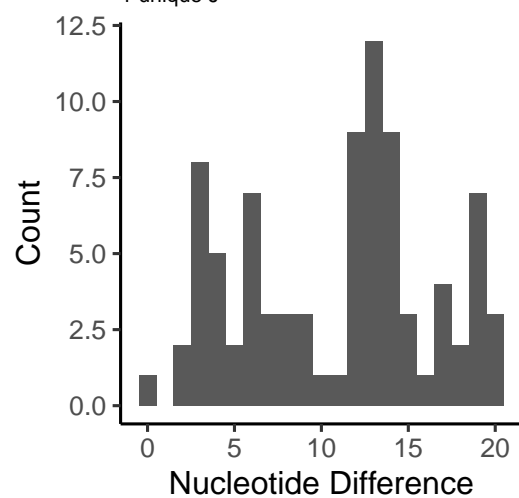
### IGHV3-11\*04

1308 sequences assigned  
33 (2.5%) exact matches, in which:  
20 unique CDR3  
6 unique J



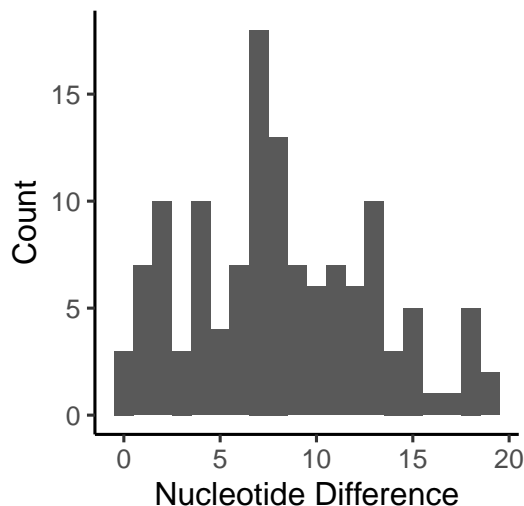
### IGHV3-13\*01

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



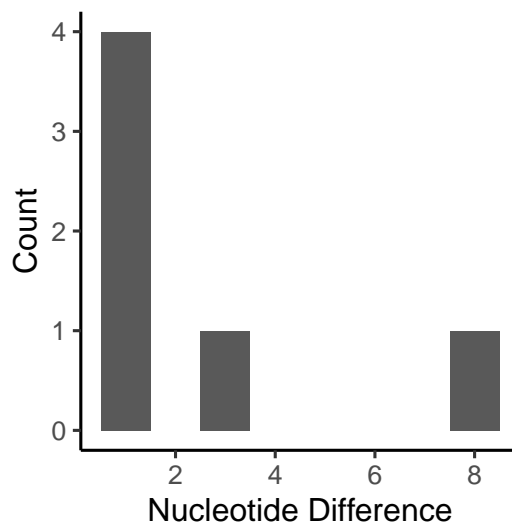
### IGHV3-13\*04

131 sequences assigned  
3 (2.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



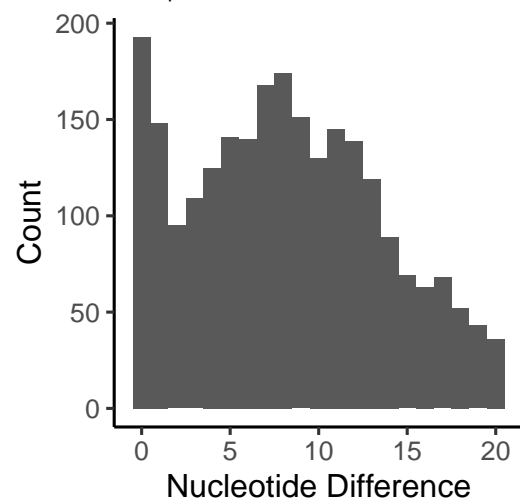
### IGHV3-19\*01

6 sequences assigned  
No exact matches.



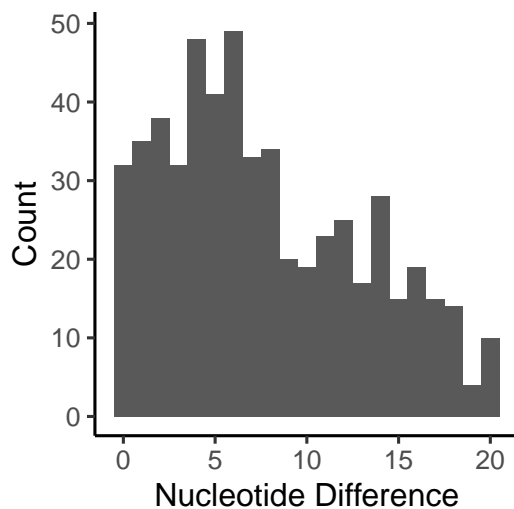
### IGHV3-21\*01\_02

2601 sequences assigned  
193 (7.4%) exact matches, in which:  
135 unique CDR3  
7 unique J



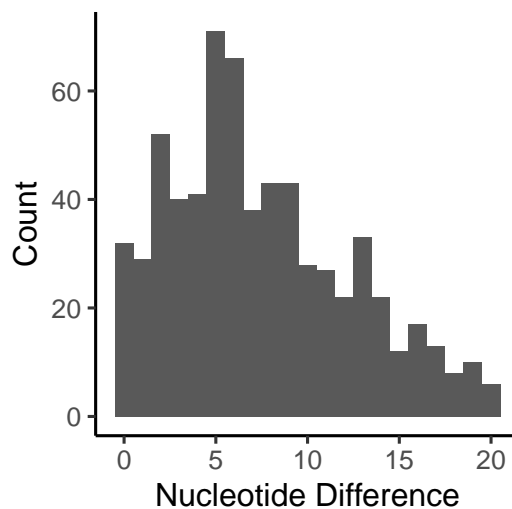
### IGHV3-15\*07

574 sequences assigned  
32 (5.6%) exact matches, in which:  
24 unique CDR3  
5 unique J



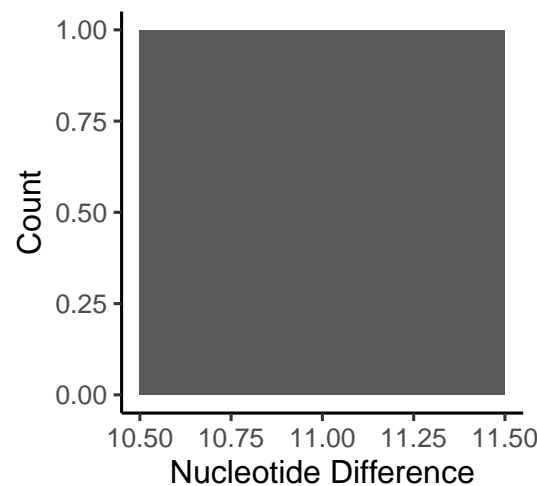
### IGHV3-20\*03\_04

678 sequences assigned  
32 (4.7%) exact matches, in which:  
17 unique CDR3  
4 unique J



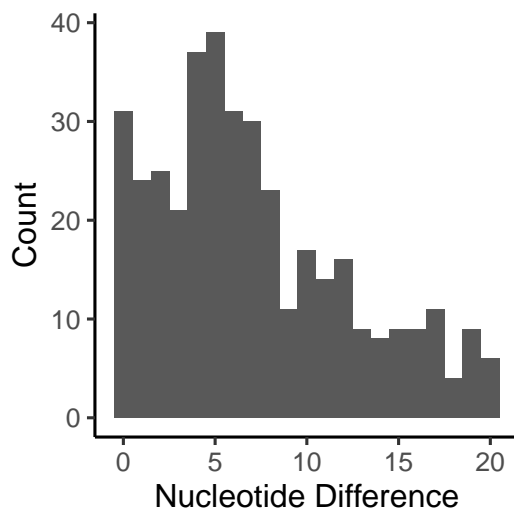
### IGHV3-22\*01\_02

1 sequences assigned  
No exact matches.



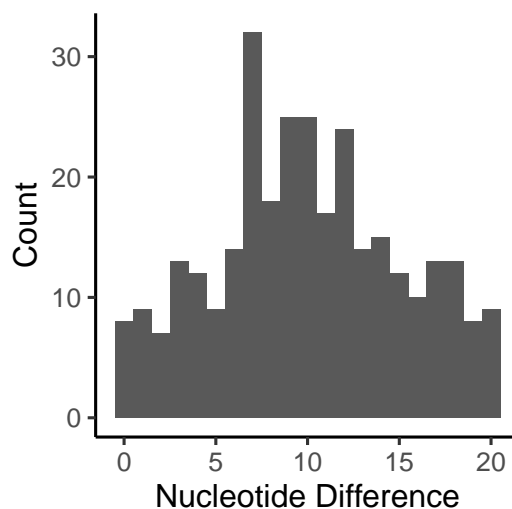
### IGHV3-15\*01\_02

401 sequences assigned  
31 (7.7%) exact matches, in which:  
23 unique CDR3  
6 unique J



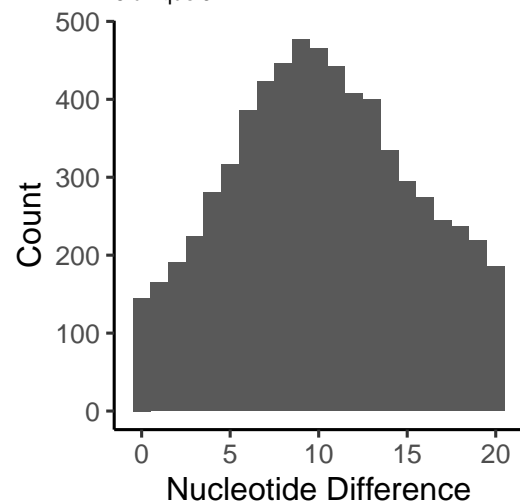
### IGHV3-21\*04

327 sequences assigned  
8 (2.4%) exact matches, in which:  
7 unique CDR3  
4 unique J



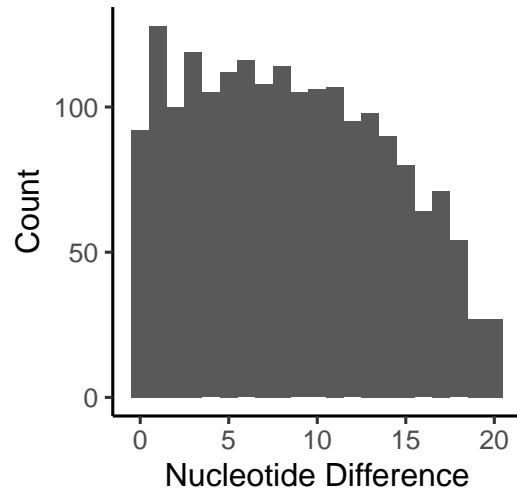
### IGHV3-23\*01\_04

7505 sequences assigned  
145 (1.9%) exact matches, in which:  
110 unique CDR3  
6 unique J



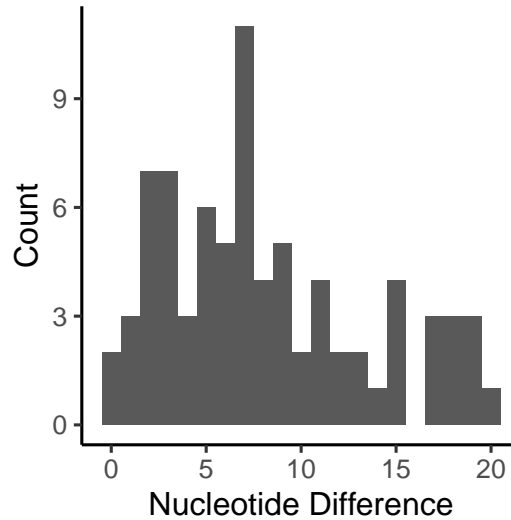
### IGHV3-30-3\*01

2062 sequences assigned  
92 (4.5%) exact matches, in which:  
65 unique CDR3  
6 unique J



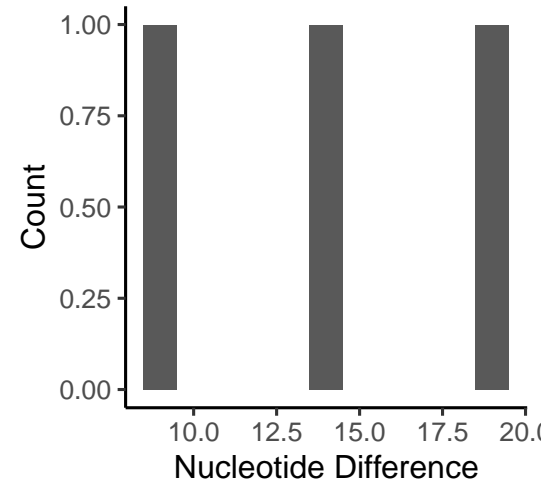
### IGHV3-33\*05

80 sequences assigned  
2 (2.5%) exact matches, in which:  
2 unique CDR3  
2 unique J



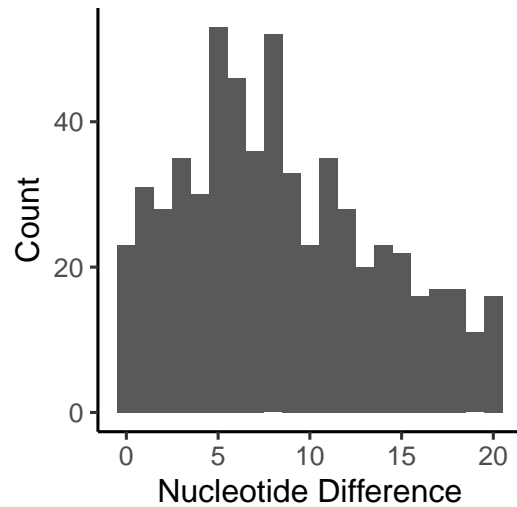
### IGHV3-38-3\*01

3 sequences assigned  
No exact matches.



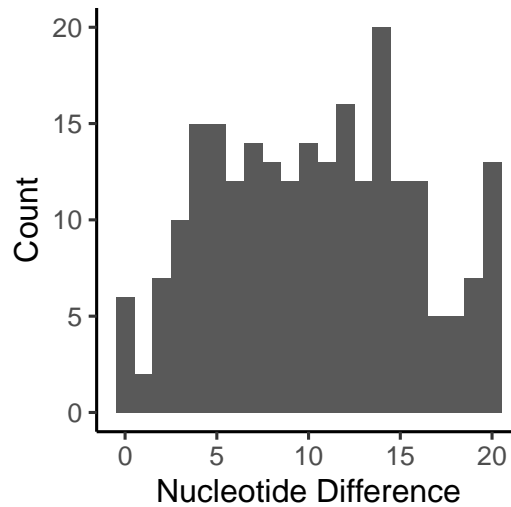
### IGHV3-30\*03

740 sequences assigned  
23 (3.1%) exact matches, in which:  
23 unique CDR3  
7 unique J



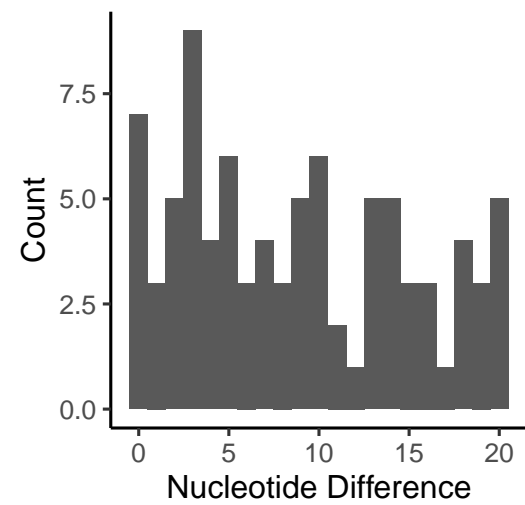
### IGHV3-33\*08

244 sequences assigned  
6 (2.5%) exact matches, in which:  
6 unique CDR3  
3 unique J



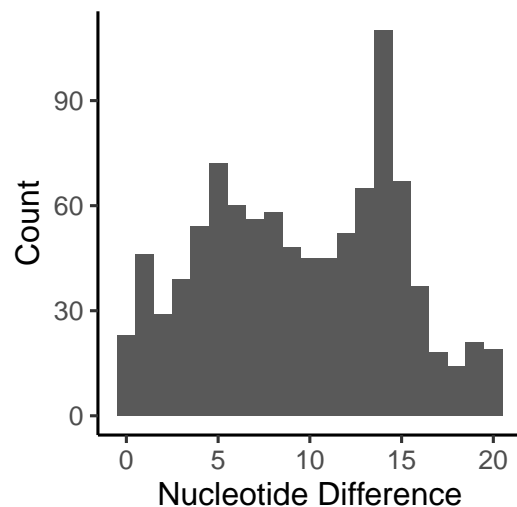
### IGHV3-43\*01

102 sequences assigned  
7 (6.9%) exact matches, in which:  
5 unique CDR3  
2 unique J



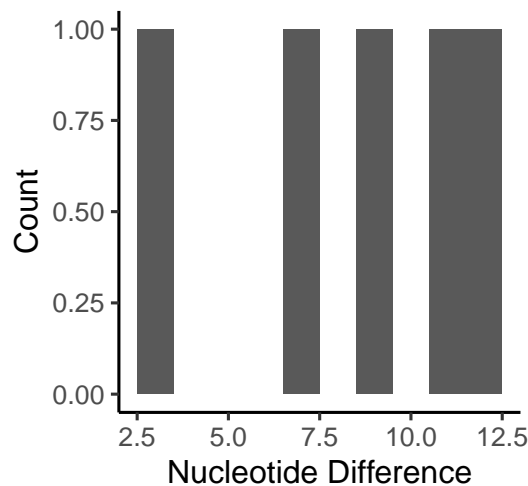
### IGHV3-33\*01

1018 sequences assigned  
23 (2.3%) exact matches, in which:  
16 unique CDR3  
5 unique J



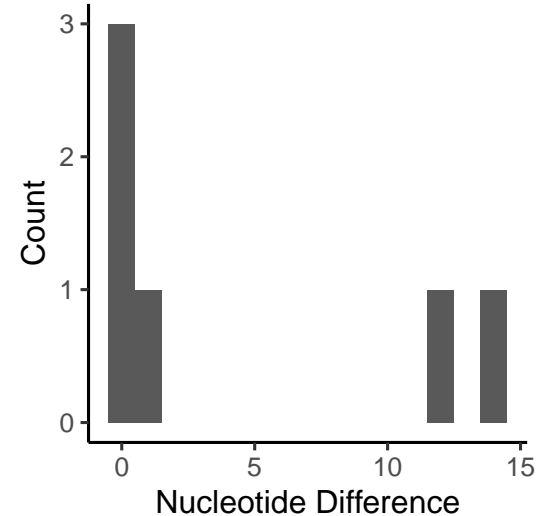
### IGHV3-35\*01

5 sequences assigned  
No exact matches.



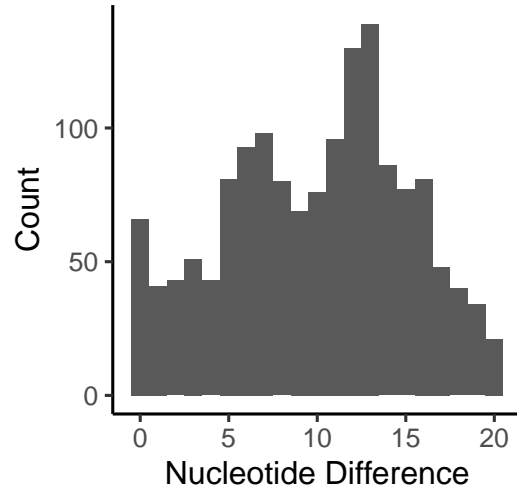
### IGHV3-47\*02

6 sequences assigned  
3 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J



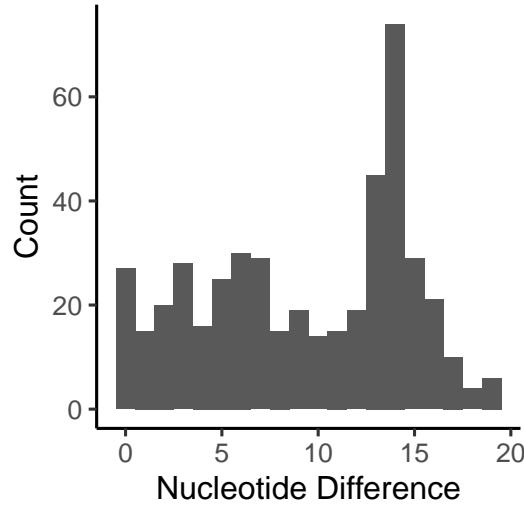
### IGHV3-48\*01

1572 sequences assigned  
66 (4.2%) exact matches, in which:  
50 unique CDR3  
7 unique J



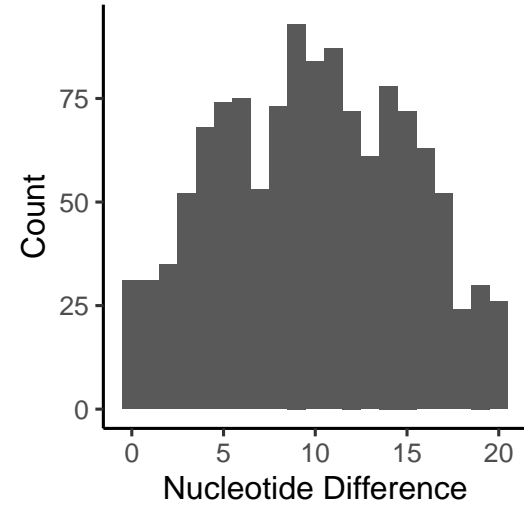
### IGHV3-49\*03\_05

483 sequences assigned  
27 (5.6%) exact matches, in which:  
19 unique CDR3  
4 unique J



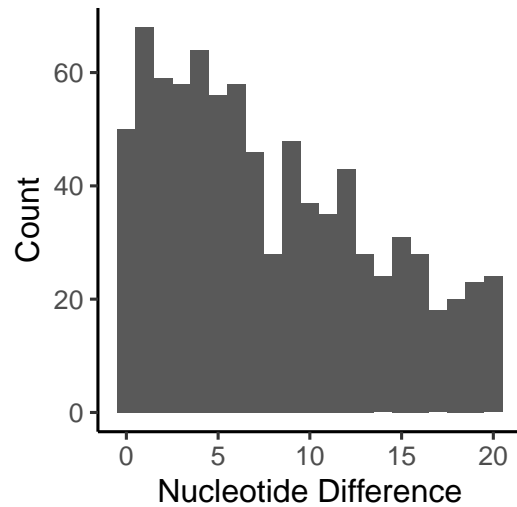
### IGHV3-53\*01\_02

1365 sequences assigned  
31 (2.3%) exact matches, in which:  
22 unique CDR3  
5 unique J



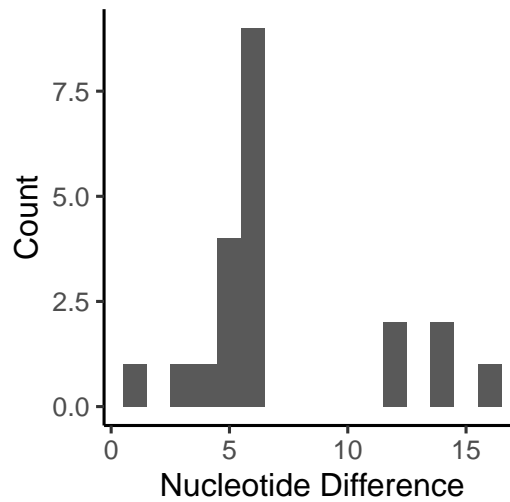
### IGHV3-48\*02

893 sequences assigned  
50 (5.6%) exact matches, in which:  
36 unique CDR3  
4 unique J



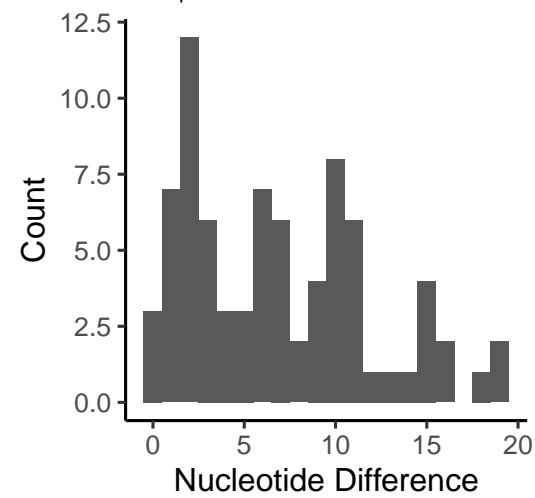
### IGHV3-52\*01\_03

21 sequences assigned  
No exact matches.



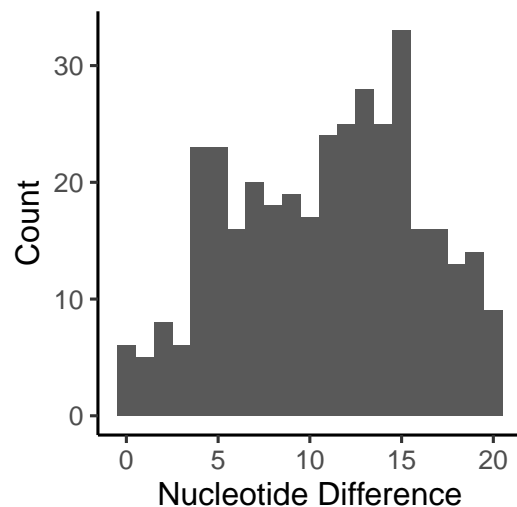
### IGHV3-64\*01

80 sequences assigned  
3 (3.8%) exact matches, in which:  
2 unique CDR3  
1 unique J



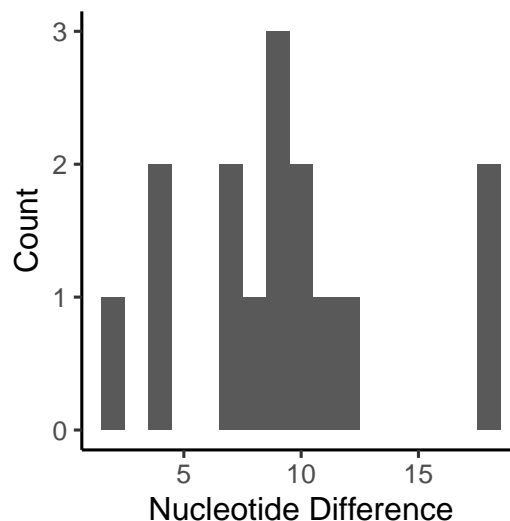
### IGHV3-48\*04

407 sequences assigned  
6 (1.5%) exact matches, in which:  
6 unique CDR3  
4 unique J



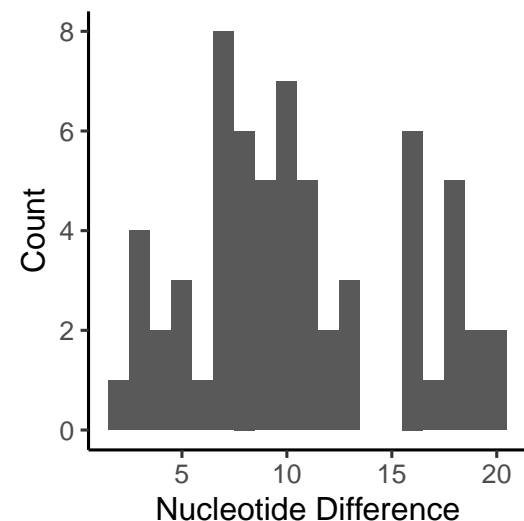
### IGHV3-53\*05

16 sequences assigned  
No exact matches.



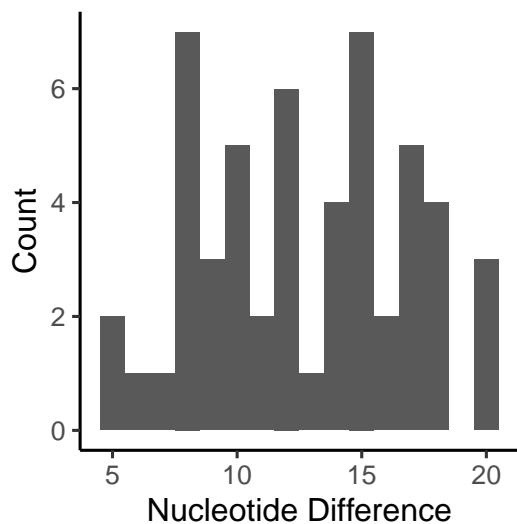
### IGHV3-64\*04

80 sequences assigned  
No exact matches.



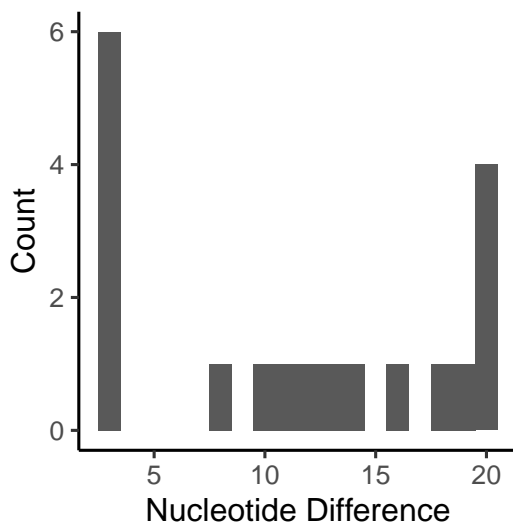
### IGHV3-66\*01

60 sequences assigned  
No exact matches.



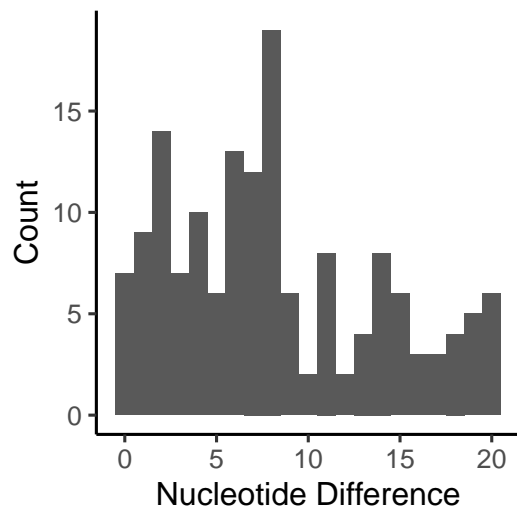
### IGHV3-69-1\*01

38 sequences assigned  
No exact matches.



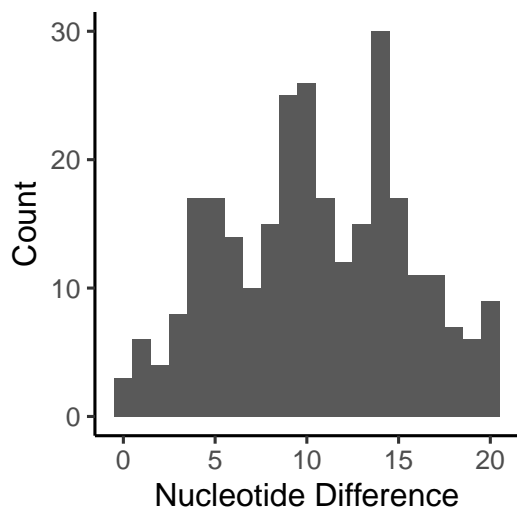
### IGHV3-73\*01\_02

164 sequences assigned  
7 (4.3%) exact matches, in which:  
6 unique CDR3  
2 unique J



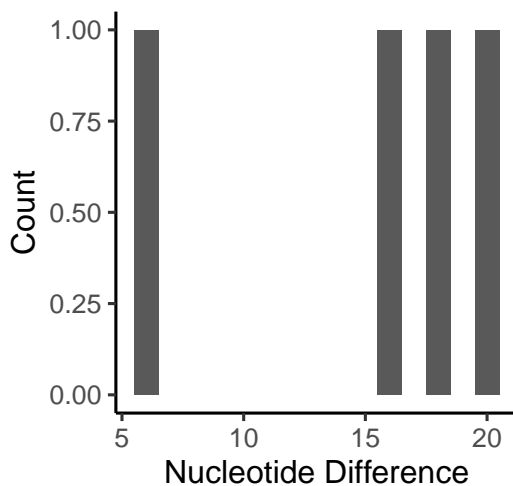
### IGHV3-66\*02

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



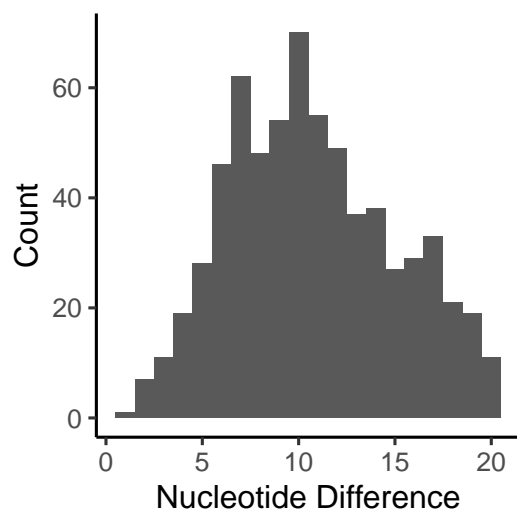
### IGHV3-69-1\*02

8 sequences assigned  
No exact matches.



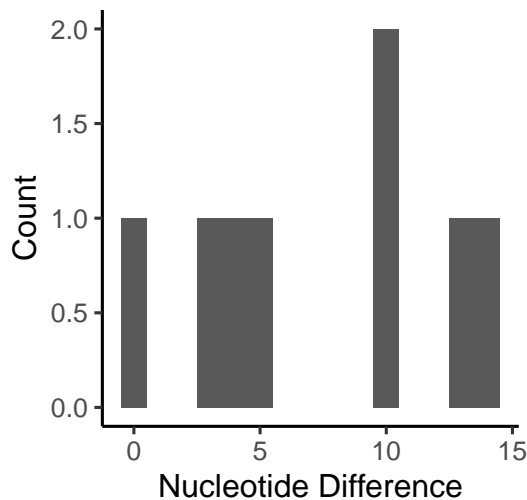
### IGHV3-74\*03

801 sequences assigned  
No exact matches.



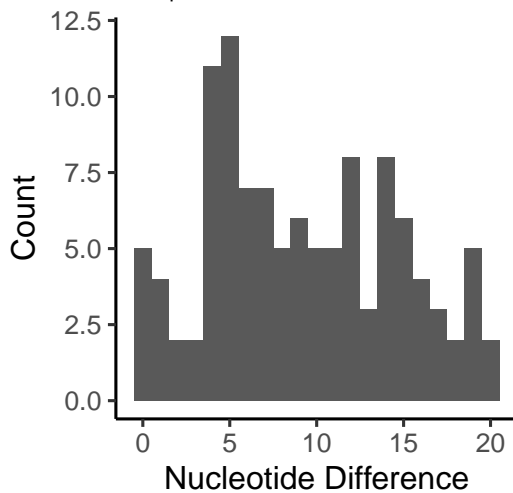
### IGHV3-66\*03

14 sequences assigned  
1 (7.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



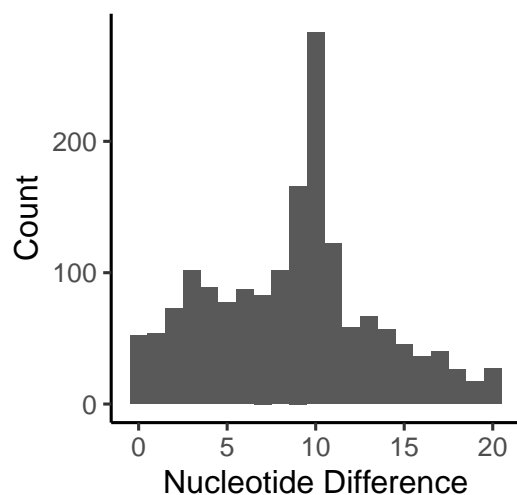
### IGHV3-72\*01

122 sequences assigned  
5 (4.1%) exact matches, in which:  
4 unique CDR3  
3 unique J



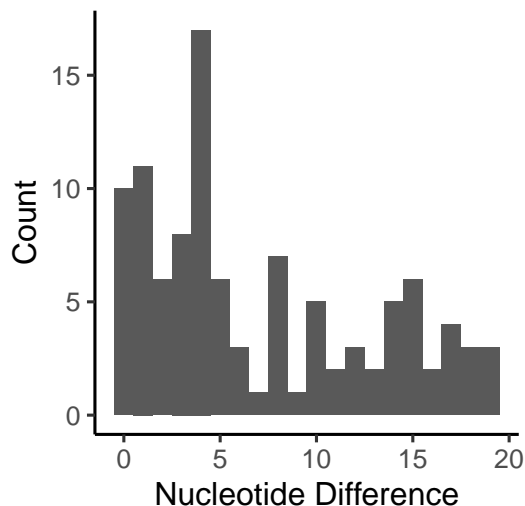
### IGHV3-74\*01\_02

1751 sequences assigned  
52 (3%) exact matches, in which:  
37 unique CDR3  
5 unique J



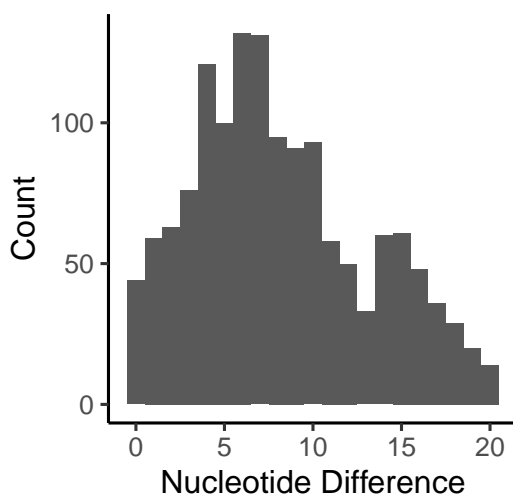
### IGHV3-43D\*03

126 sequences assigned  
10 (7.9%) exact matches, in which:  
7 unique CDR3  
2 unique J



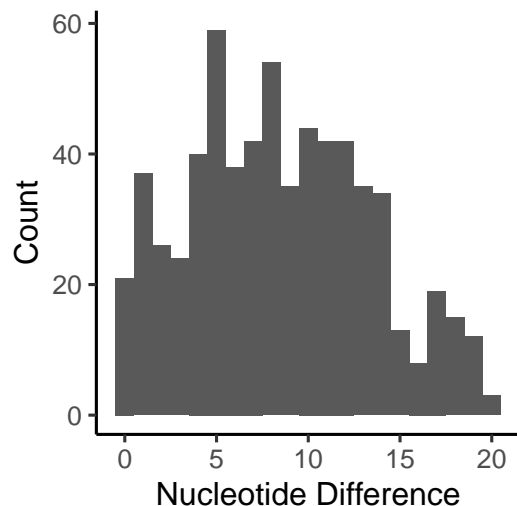
### IGHV4-4\*02\_03

1488 sequences assigned  
44 (3%) exact matches, in which:  
34 unique CDR3  
6 unique J



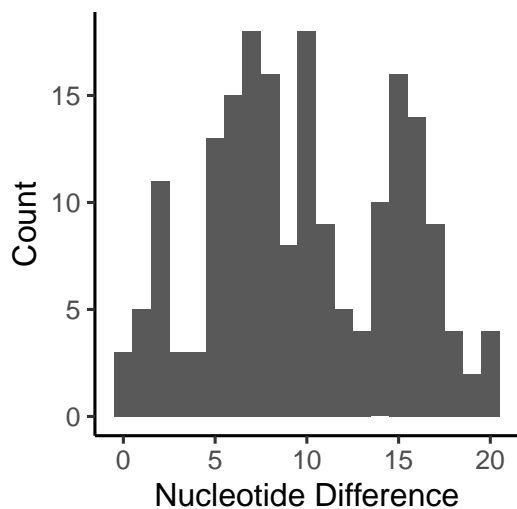
### IGHV4-30-2\*01

681 sequences assigned  
21 (3.1%) exact matches, in which:  
15 unique CDR3  
6 unique J



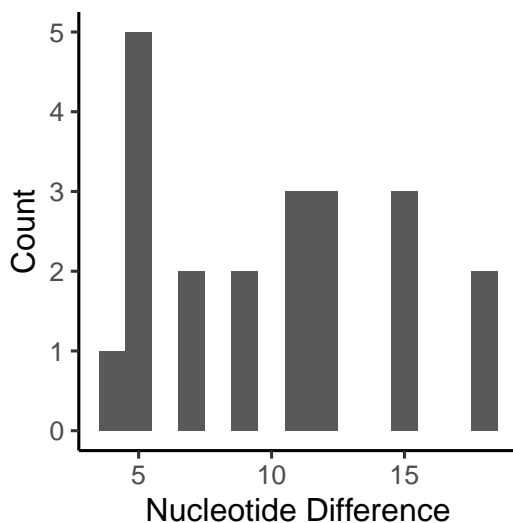
### IGHV3-64D\*06

261 sequences assigned  
3 (1.1%) exact matches, in which:  
3 unique CDR3  
3 unique J



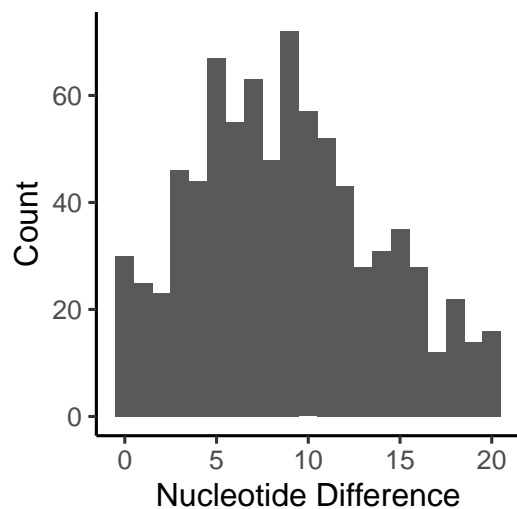
### IGHV4-28\*03

22 sequences assigned  
No exact matches.



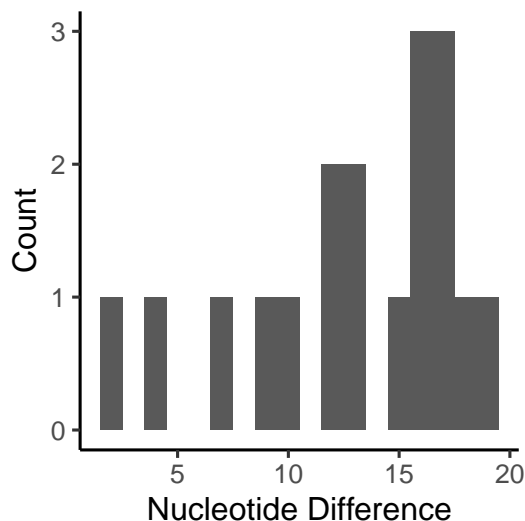
### IGHV4-30-4\*01

864 sequences assigned  
30 (3.5%) exact matches, in which:  
25 unique CDR3  
6 unique J



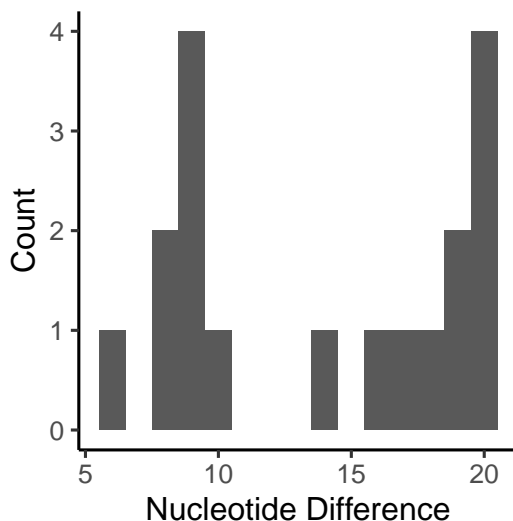
### IGHV3-NL1\*01

23 sequences assigned  
No exact matches.



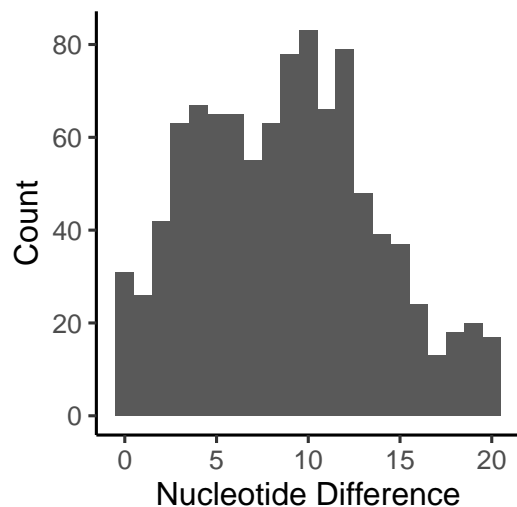
### IGHV4-28\*01\_07

18 sequences assigned  
No exact matches.



### IGHV4-31\*02

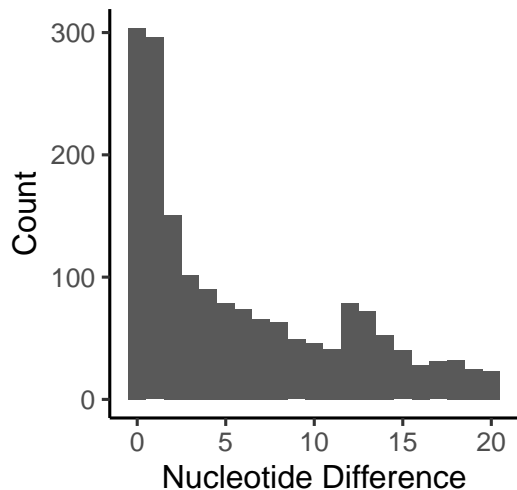
1163 sequences assigned  
31 (2.7%) exact matches, in which:  
25 unique CDR3  
5 unique J





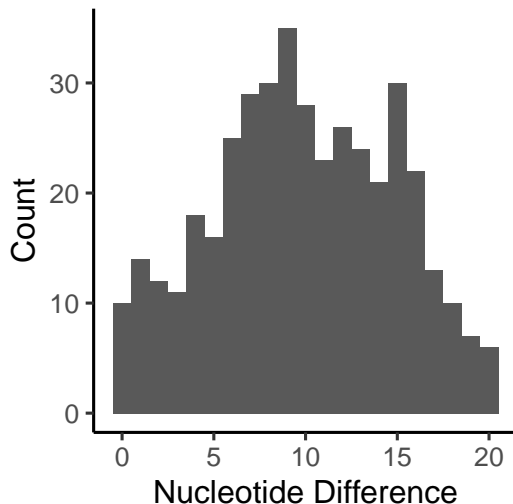
### IGHV4–34\*01\_02

1837 sequences assigned  
304 (16.5%) exact matches, in which:  
233 unique CDR3  
7 unique J



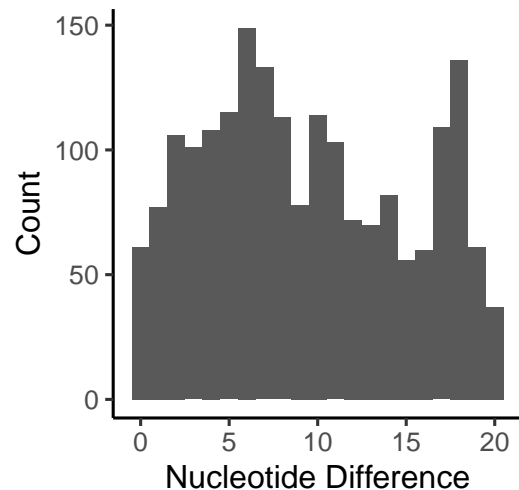
### IGHV4–59\*08

445 sequences assigned  
10 (2.2%) exact matches, in which:  
9 unique CDR3  
4 unique J



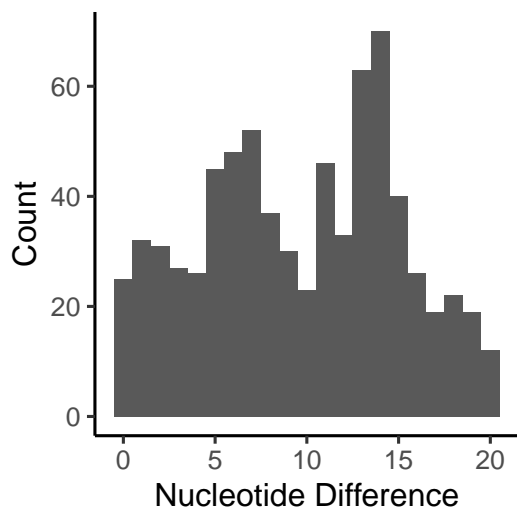
### IGHV4–61\*02

2048 sequences assigned  
61 (3%) exact matches, in which:  
51 unique CDR3  
6 unique J



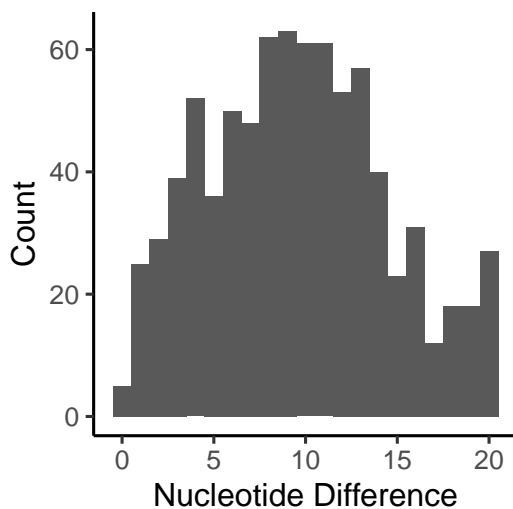
### IGHV4–38–2\*02

778 sequences assigned  
25 (3.2%) exact matches, in which:  
20 unique CDR3  
5 unique J



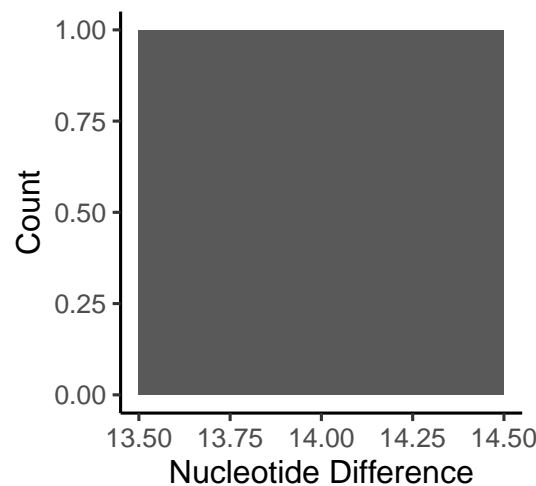
### IGHV4–59\*12

873 sequences assigned  
5 (0.6%) exact matches, in which:  
5 unique CDR3  
4 unique J



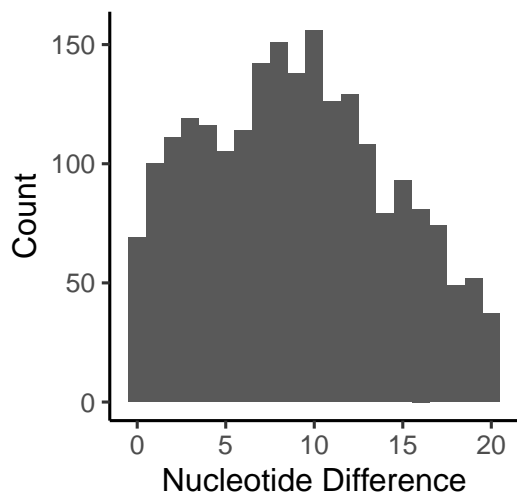
### IGHV1/OR15–1\*04

1 sequences assigned  
No exact matches.



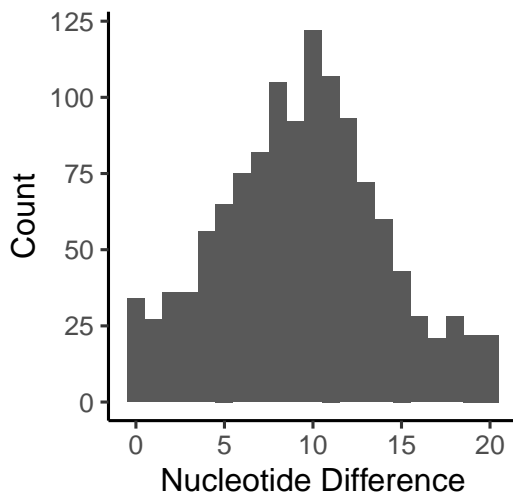
### IGHV4–39\*07

2645 sequences assigned  
69 (2.6%) exact matches, in which:  
55 unique CDR3  
7 unique J



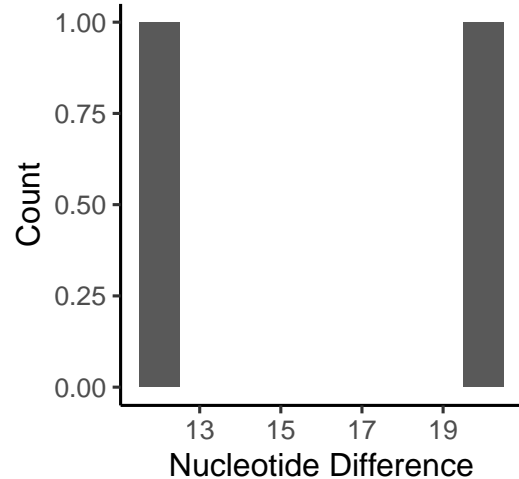
### IGHV4–61\*01

1309 sequences assigned  
34 (2.6%) exact matches, in which:  
31 unique CDR3  
6 unique J



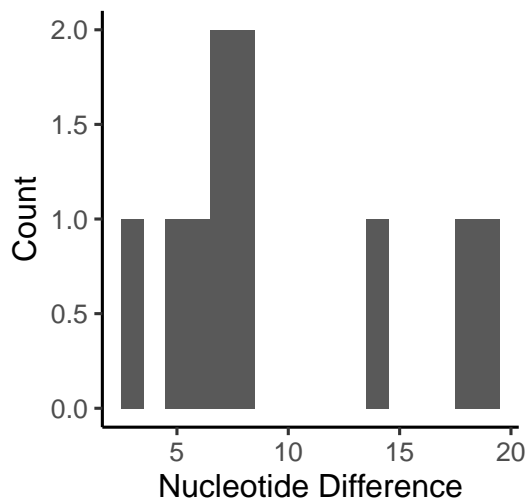
### IGHV1/OR15–2\*02\_03

3 sequences assigned  
No exact matches.



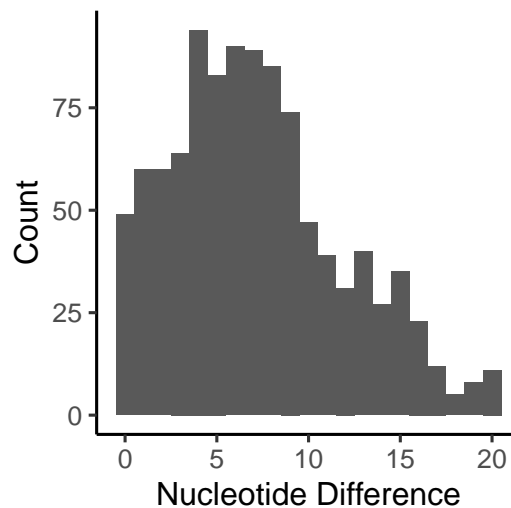
### IGHV4/OR15–8\*01

11 sequences assigned  
No exact matches.



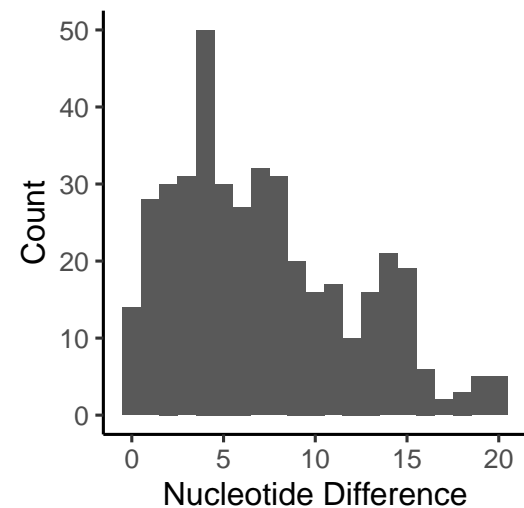
### IGHV5–10–1\*01\_03

1053 sequences assigned  
49 (4.7%) exact matches, in which:  
35 unique CDR3  
6 unique J



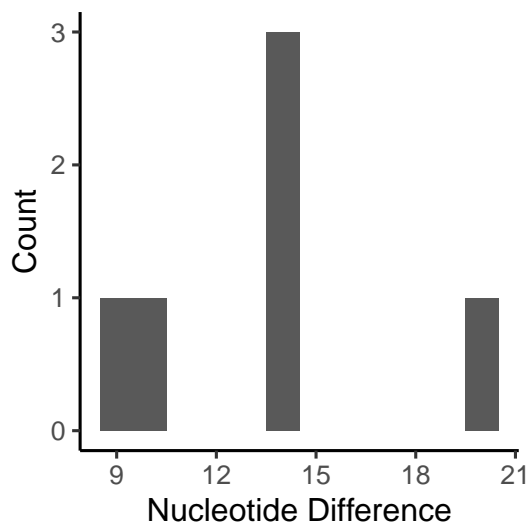
### IGHV6–1\*01\_02

424 sequences assigned  
14 (3.3%) exact matches, in which:  
14 unique CDR3  
4 unique J



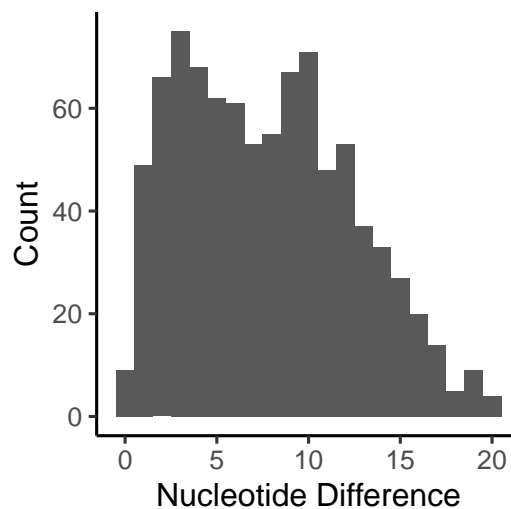
### IGHV4/OR15–8\*02

6 sequences assigned  
No exact matches.



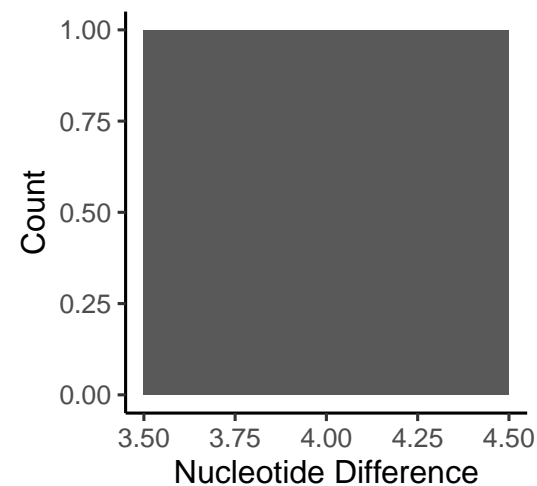
### IGHV5–51\*07

911 sequences assigned  
9 (1%) exact matches, in which:  
8 unique CDR3  
3 unique J



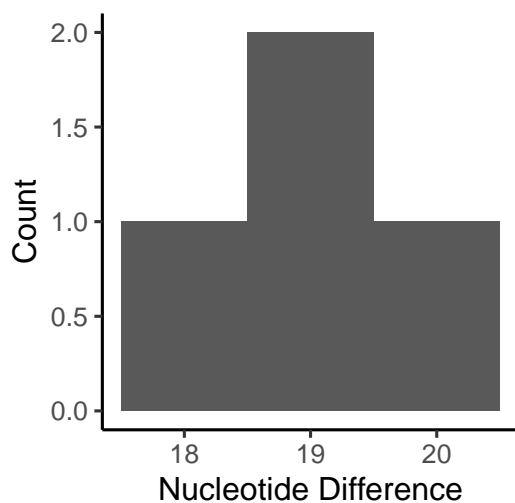
### IGHV3/OR16–9\*01

1 sequences assigned  
No exact matches.



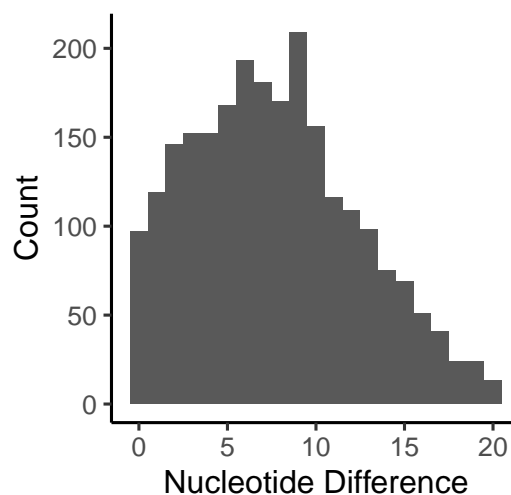
### IGHV4/OR15–8\*03

5 sequences assigned  
No exact matches.



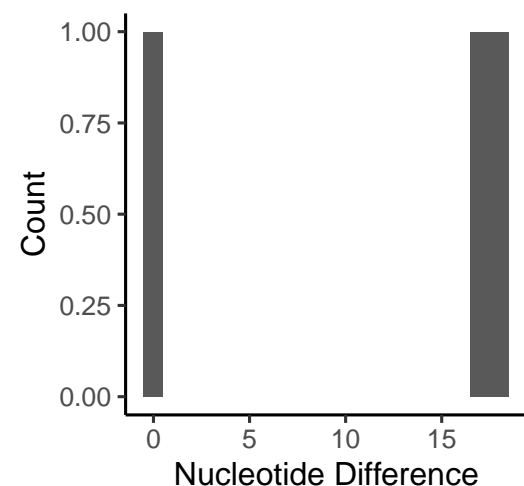
### IGHV5–51\*01\_03

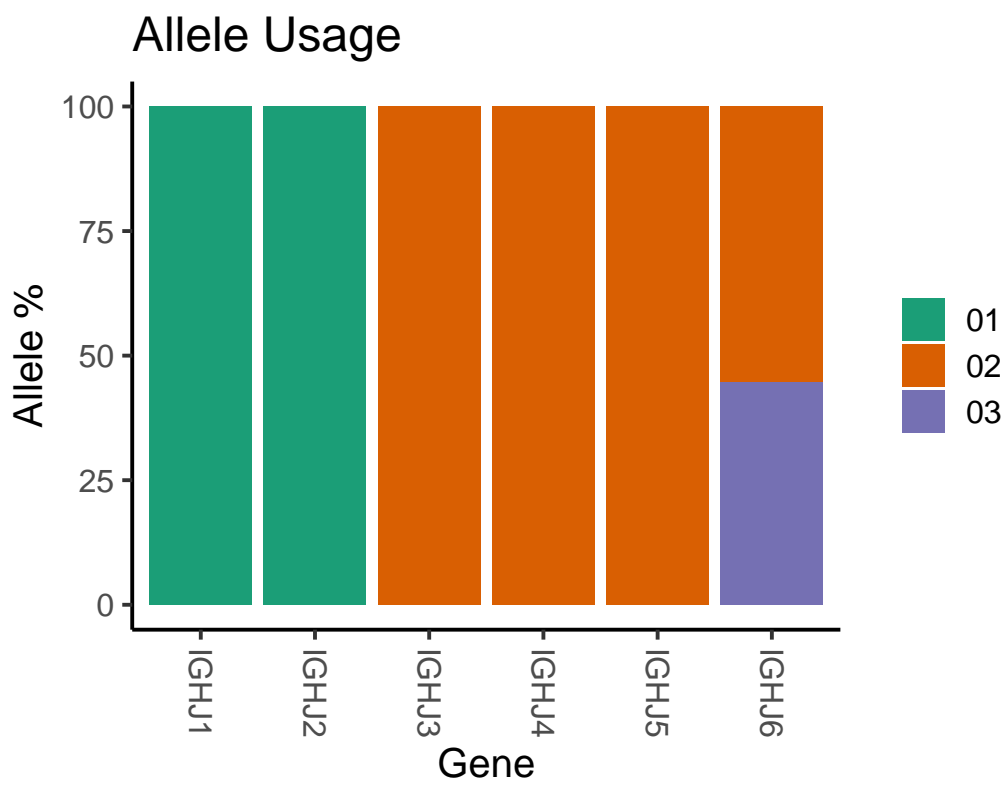
2575 sequences assigned  
97 (3.8%) exact matches, in which:  
70 unique CDR3  
7 unique J



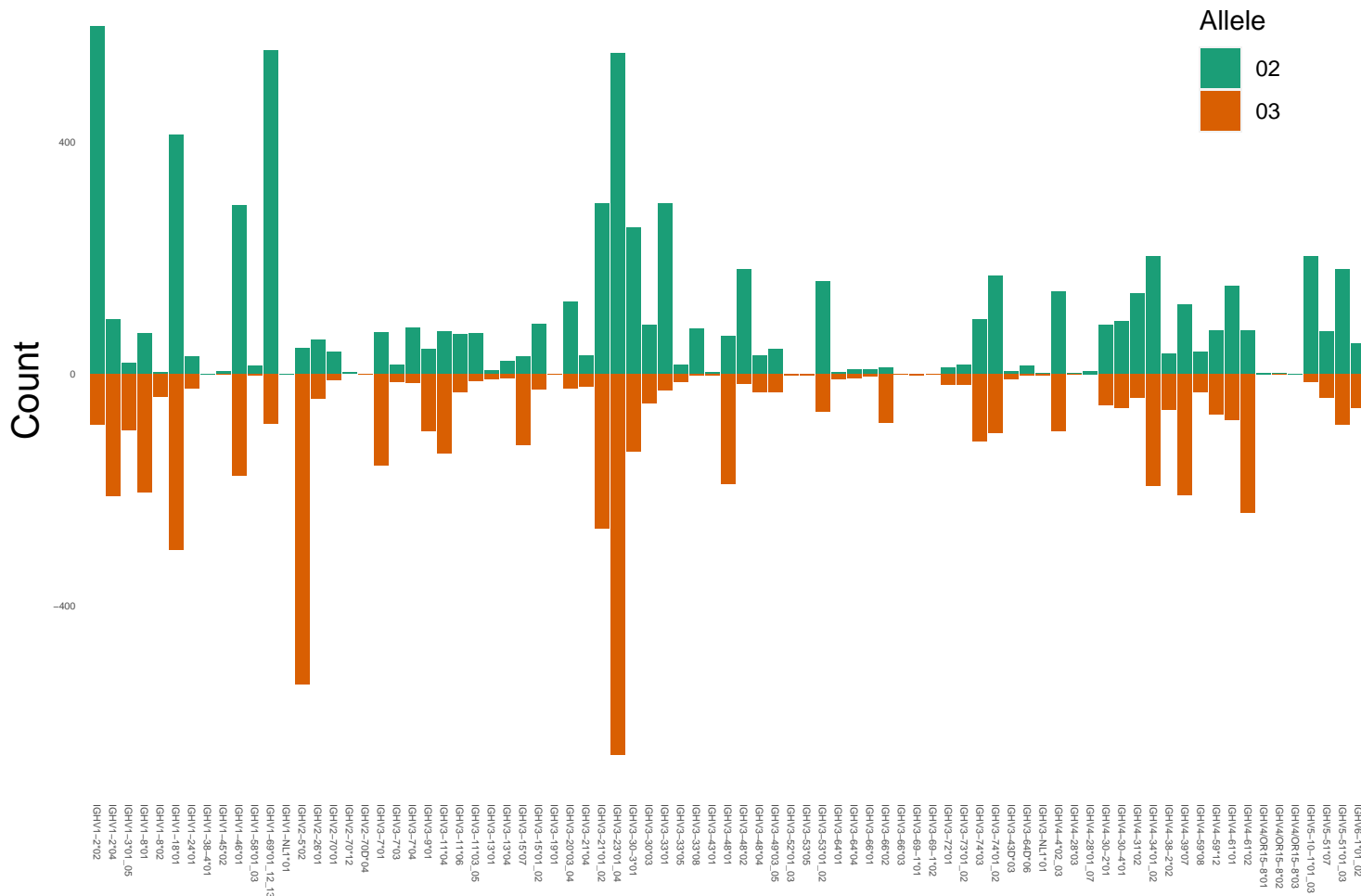
### IGHV7–4–1\*01

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





Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.