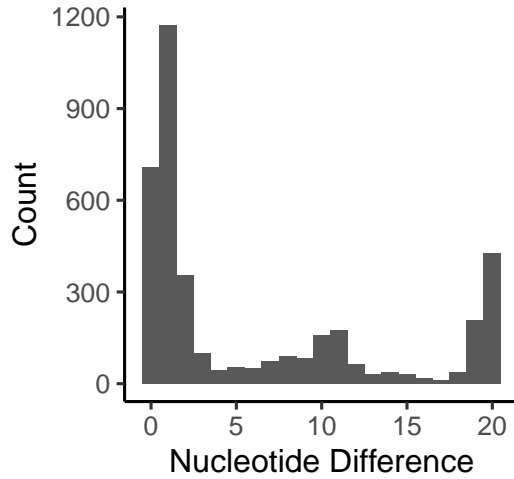


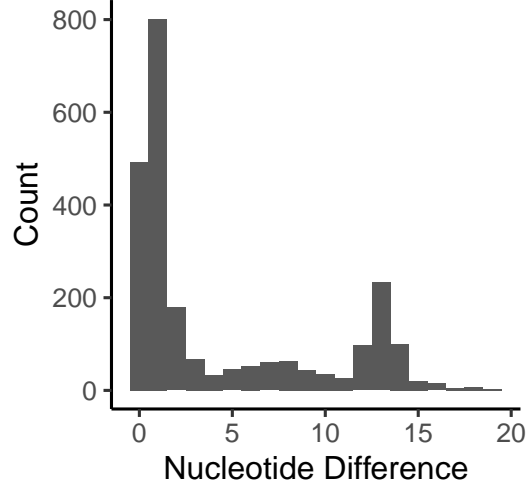
### IGHV1-2\*02

10147 sequences assigned  
708 (7%) exact matches, in which:  
524 unique CDR3  
5 unique J



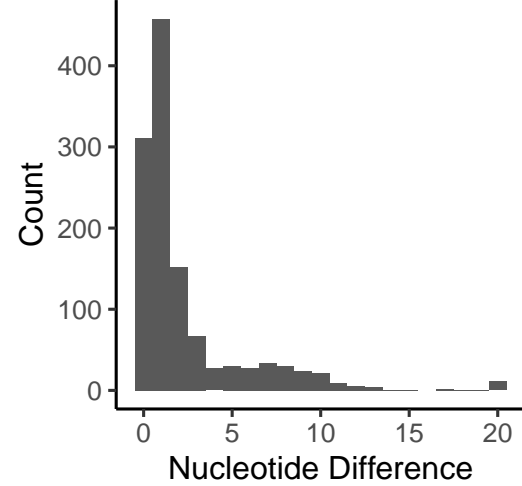
### IGHV1-8\*01

2390 sequences assigned  
493 (20.6%) exact matches, in which:  
377 unique CDR3  
6 unique J



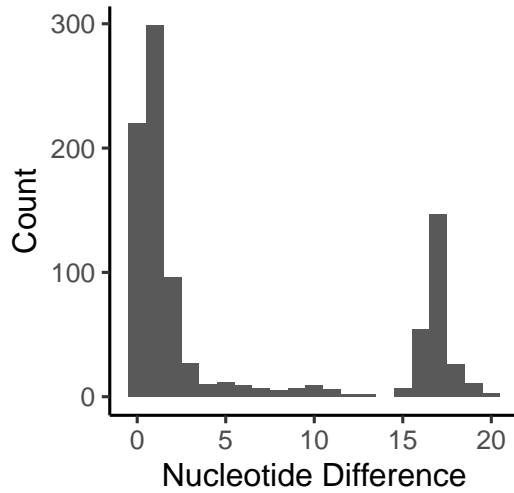
### IGHV1-46\*01

1244 sequences assigned  
311 (25%) exact matches, in which:  
245 unique CDR3  
5 unique J



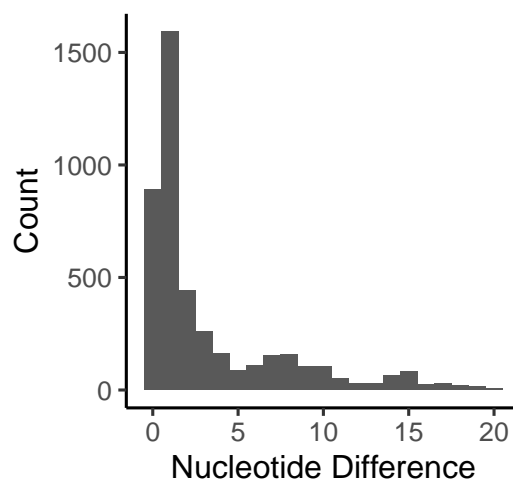
### IGHV1-2\*04

969 sequences assigned  
220 (22.7%) exact matches, in which:  
163 unique CDR3  
6 unique J



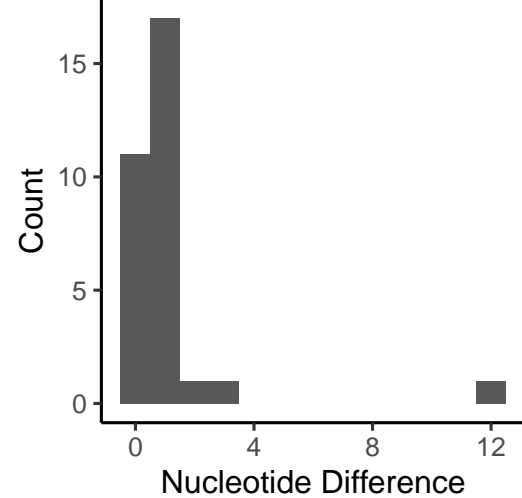
### IGHV1-18\*04

5450 sequences assigned  
892 (16.4%) exact matches, in which:  
652 unique CDR3  
6 unique J



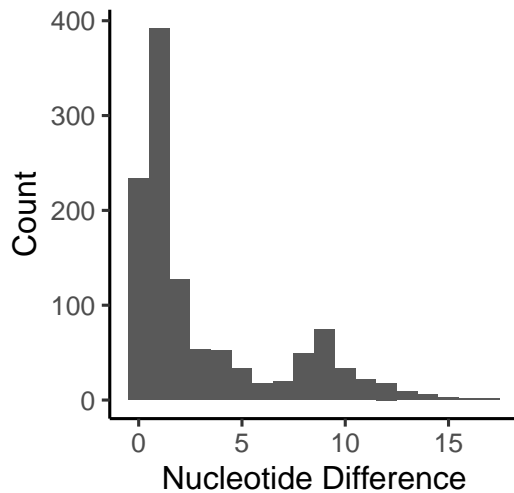
### IGHV1-58\*02

31 sequences assigned  
11 (35.5%) exact matches, in which:  
7 unique CDR3  
4 unique J



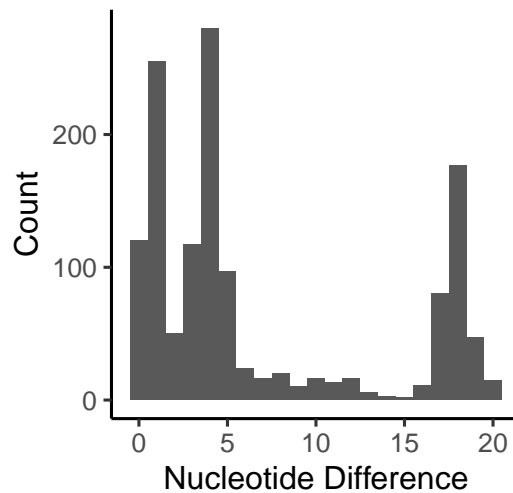
### IGHV1-3\*01\_05

1148 sequences assigned  
234 (20.4%) exact matches, in which:  
180 unique CDR3  
5 unique J



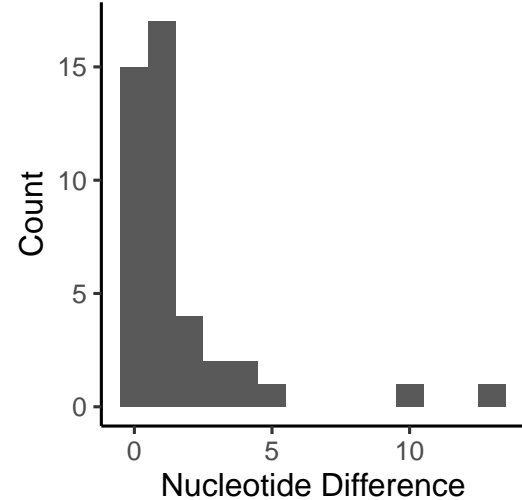
### IGHV1-24\*01

1403 sequences assigned  
120 (8.6%) exact matches, in which:  
80 unique CDR3  
6 unique J



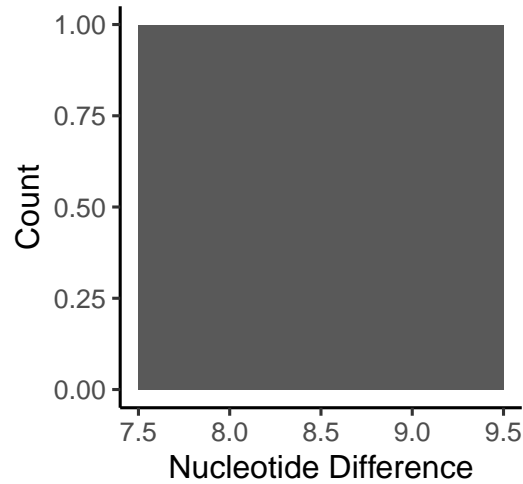
### IGHV1-58\*01\_03

43 sequences assigned  
15 (34.9%) exact matches, in which:  
11 unique CDR3  
4 unique J



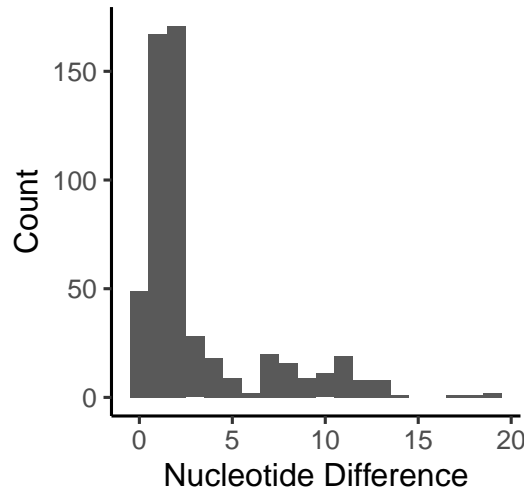
### IGHV1-69-2\*01

2 sequences assigned  
No exact matches.



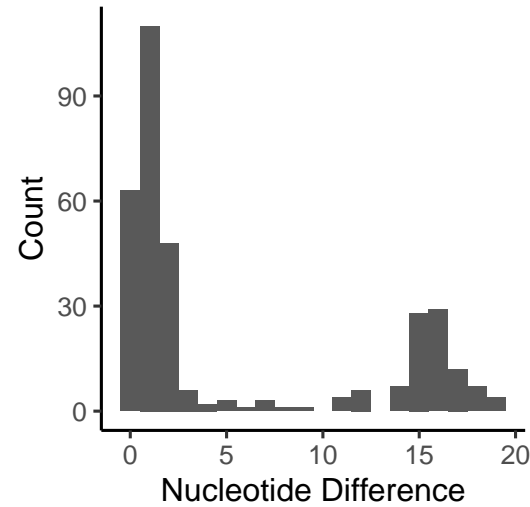
### IGHV1-69\*04\_09

545 sequences assigned  
49 (9%) exact matches, in which:  
47 unique CDR3  
5 unique J



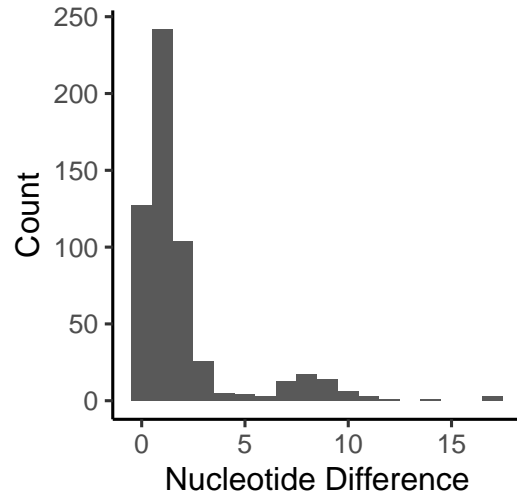
### IGHV2-5\*01

1030 sequences assigned  
63 (6.1%) exact matches, in which:  
46 unique CDR3  
4 unique J



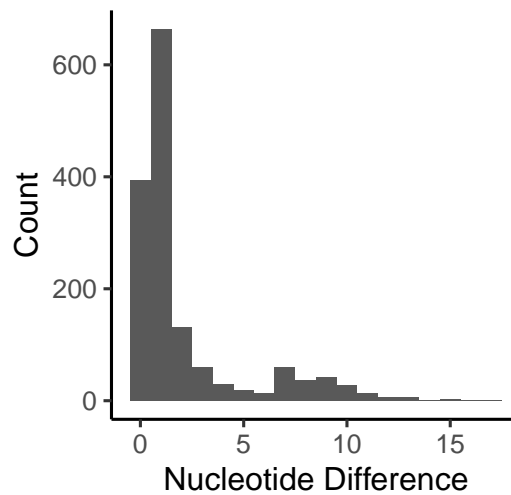
### IGHV1-69\*02

573 sequences assigned  
127 (22.2%) exact matches, in which:  
108 unique CDR3  
5 unique J



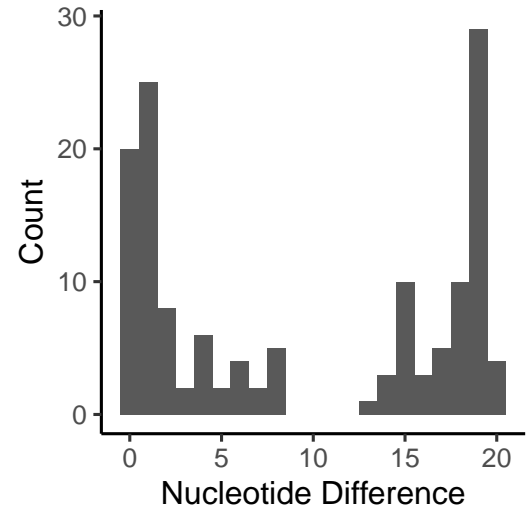
### IGHV1-69\*06\_14

1581 sequences assigned  
393 (24.9%) exact matches, in which:  
326 unique CDR3  
5 unique J



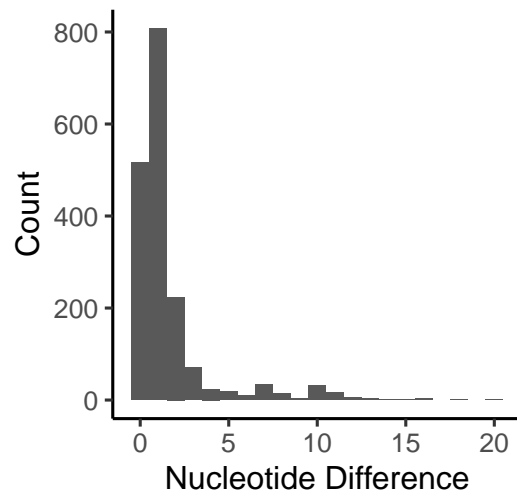
### IGHV2-5\*02

1138 sequences assigned  
20 (1.8%) exact matches, in which:  
15 unique CDR3  
4 unique J



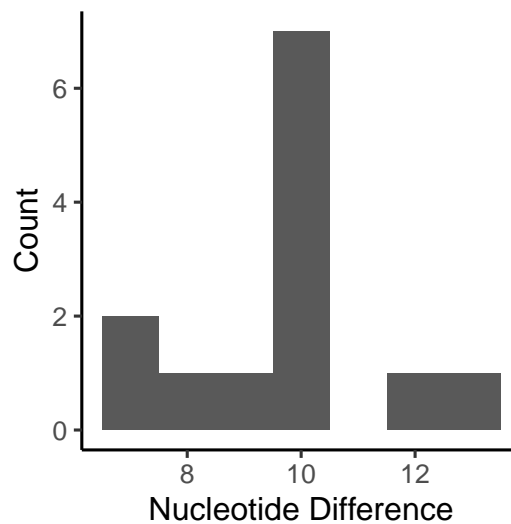
### IGHV1-69\*01\_12\_13

1831 sequences assigned  
517 (28.2%) exact matches, in which:  
419 unique CDR3  
6 unique J



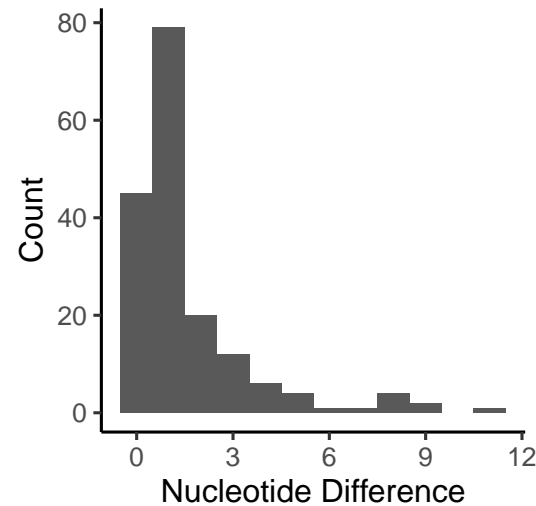
### IGHV1-NL1\*01

13 sequences assigned  
No exact matches.



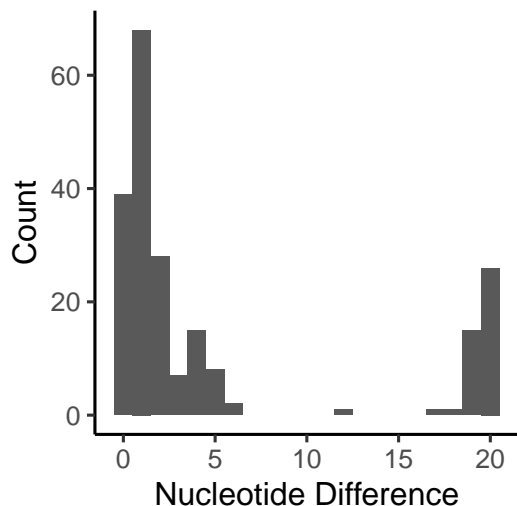
### IGHV2-26\*01

175 sequences assigned  
45 (25.7%) exact matches, in which:  
33 unique CDR3  
5 unique J



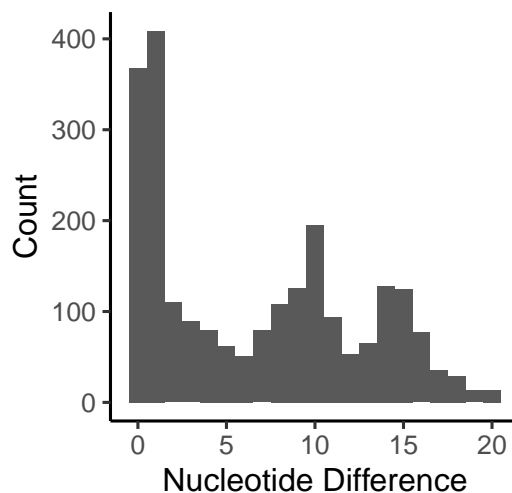
### IGHV2-70\*01

223 sequences assigned  
39 (17.5%) exact matches, in which:  
31 unique CDR3  
4 unique J



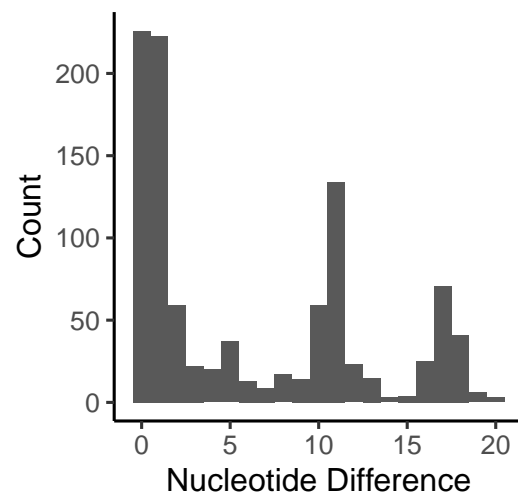
### IGHV3-7\*01

2434 sequences assigned  
368 (15.1%) exact matches, in which:  
231 unique CDR3  
6 unique J



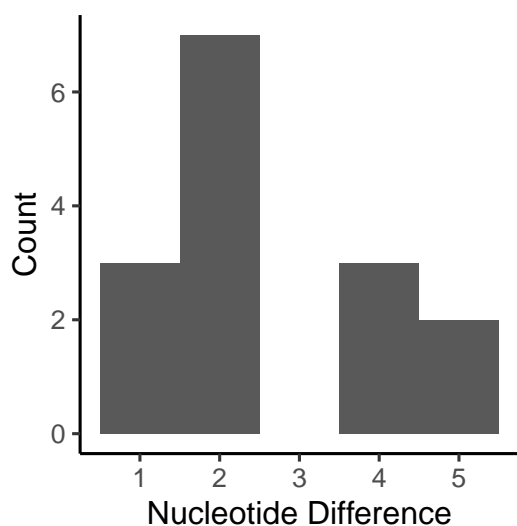
### IGHV3-11\*01

1045 sequences assigned  
226 (21.6%) exact matches, in which:  
147 unique CDR3  
5 unique J



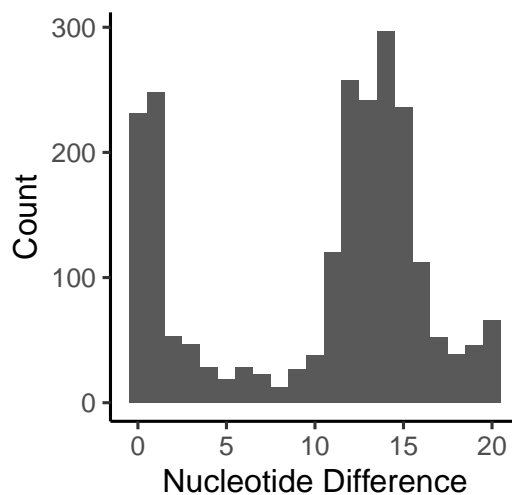
### IGHV2-70\*12

15 sequences assigned  
No exact matches.



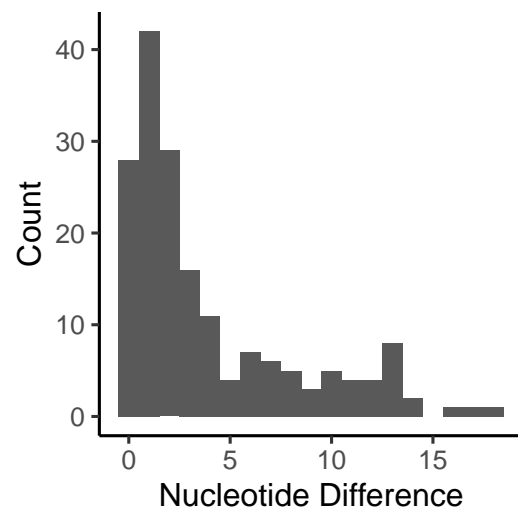
### IGHV3-7\*03

2468 sequences assigned  
231 (9.4%) exact matches, in which:  
148 unique CDR3  
6 unique J



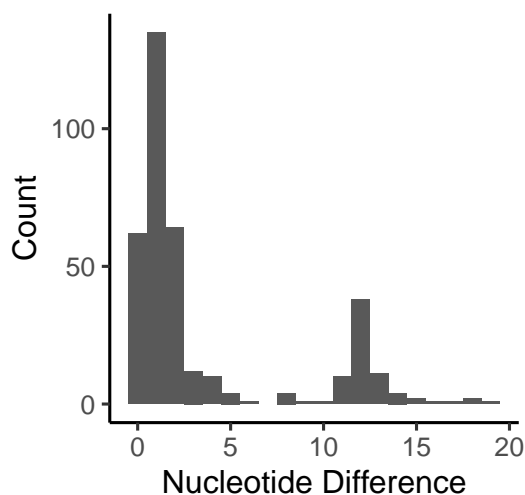
### IGHV3-11\*04

178 sequences assigned  
28 (15.7%) exact matches, in which:  
26 unique CDR3  
4 unique J



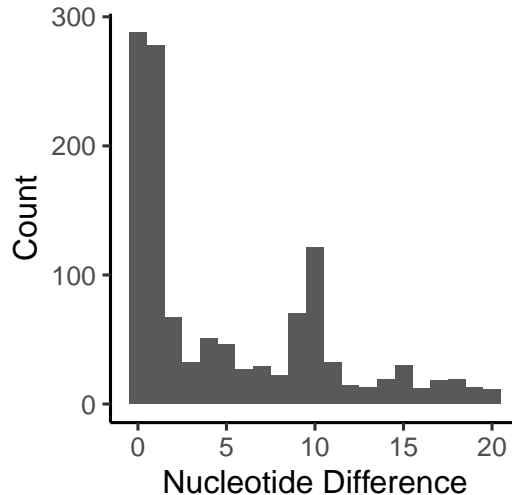
### IGHV2-70\*11\_15

364 sequences assigned  
62 (17%) exact matches, in which:  
44 unique CDR3  
4 unique J



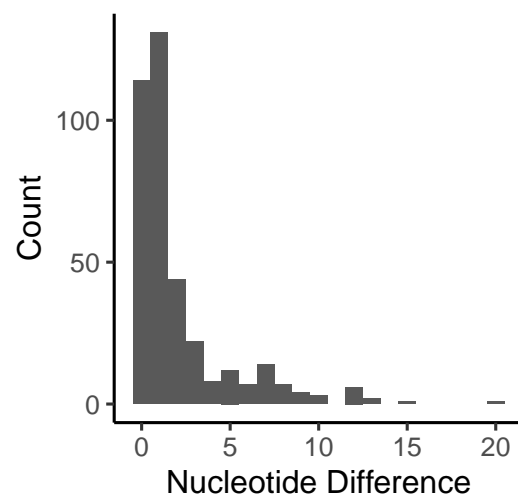
### IGHV3-9\*01

1251 sequences assigned  
288 (23%) exact matches, in which:  
168 unique CDR3  
6 unique J



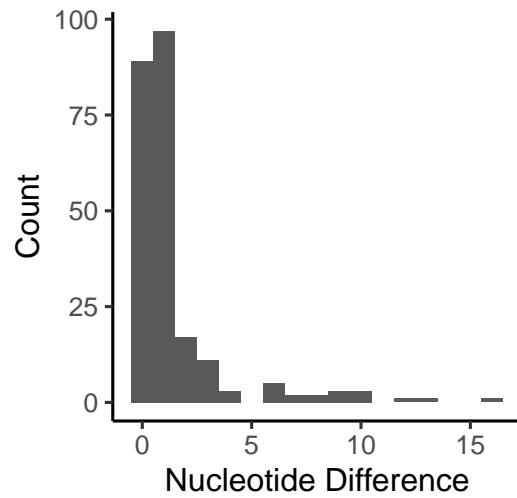
### IGHV3-11\*06

676 sequences assigned  
114 (16.9%) exact matches, in which:  
73 unique CDR3  
6 unique J



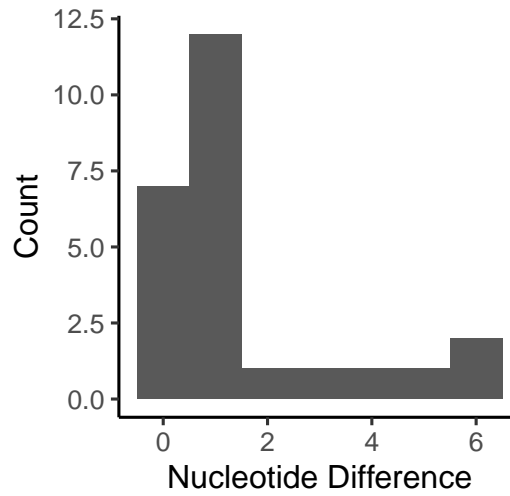
### IGHV3-13\*01

235 sequences assigned  
89 (37.9%) exact matches, in which:  
52 unique CDR3  
6 unique J



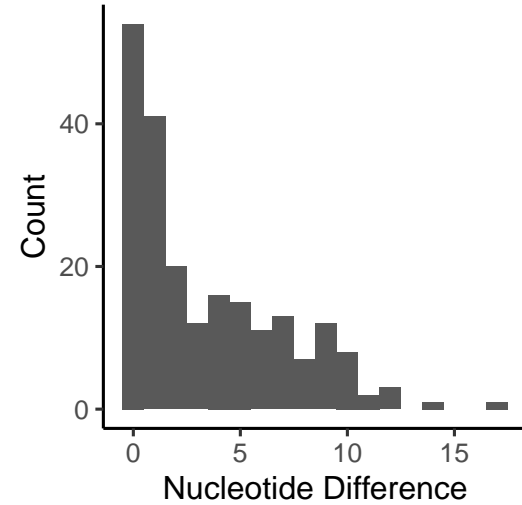
### IGHV3-19\*01

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



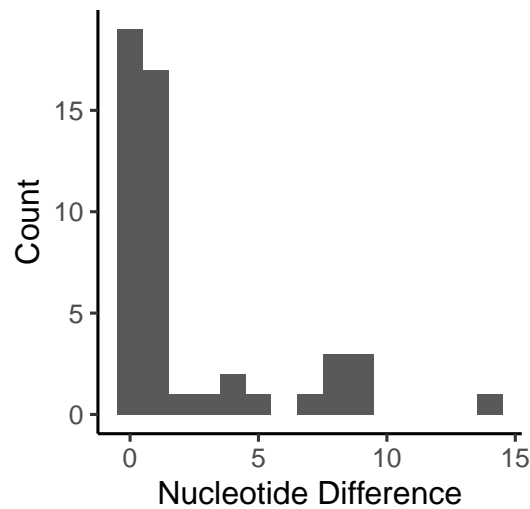
### IGHV3-21\*04

216 sequences assigned  
54 (25%) exact matches, in which:  
51 unique CDR3  
4 unique J



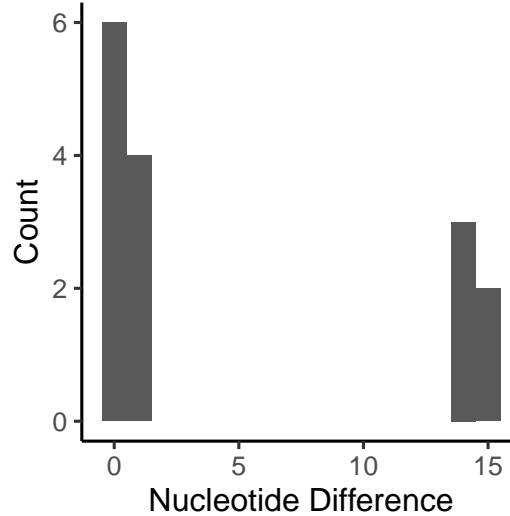
### IGHV3-13\*05

50 sequences assigned  
19 (38%) exact matches, in which:  
10 unique CDR3  
4 unique J



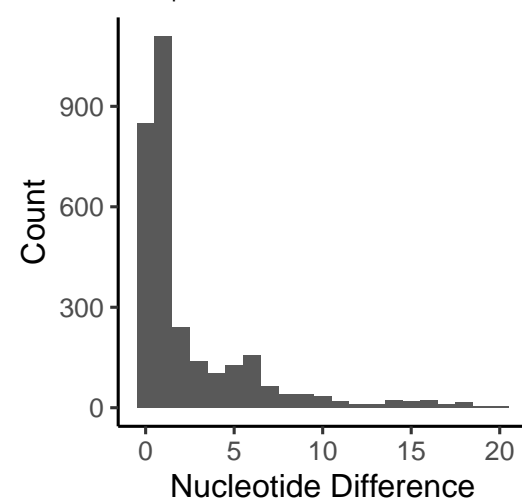
### IGHV3-20\*01\_02

15 sequences assigned  
6 (40%) exact matches, in which:  
5 unique CDR3  
2 unique J



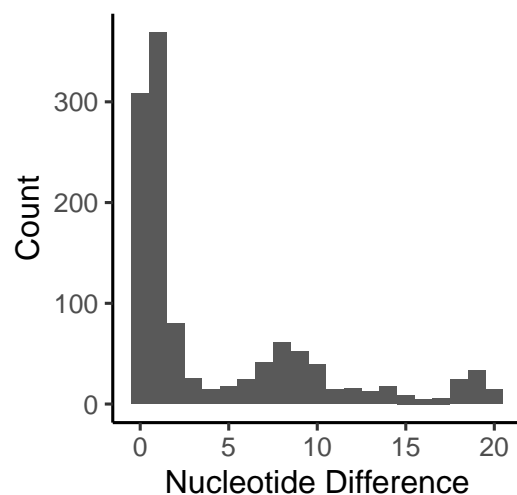
### IGHV3-21\*01\_02

3054 sequences assigned  
851 (27.9%) exact matches, in which:  
488 unique CDR3  
6 unique J



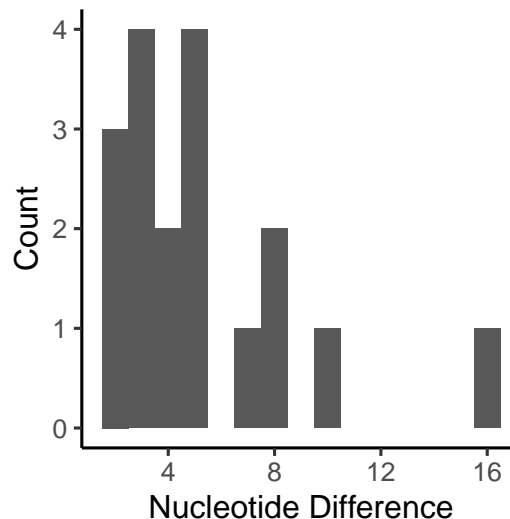
### IGHV3-15\*01\_02

1364 sequences assigned  
308 (22.6%) exact matches, in which:  
169 unique CDR3  
4 unique J



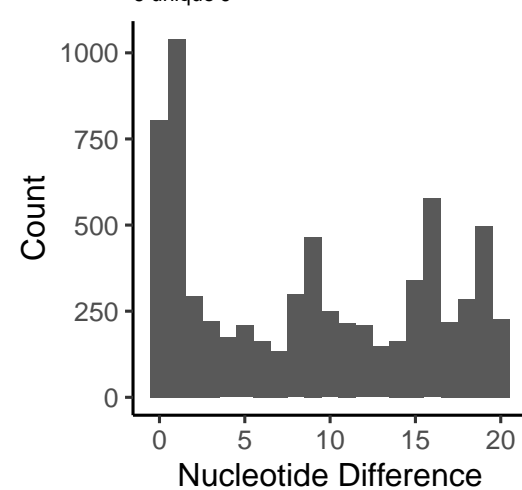
### IGHV3-20\*03\_04

18 sequences assigned  
No exact matches.



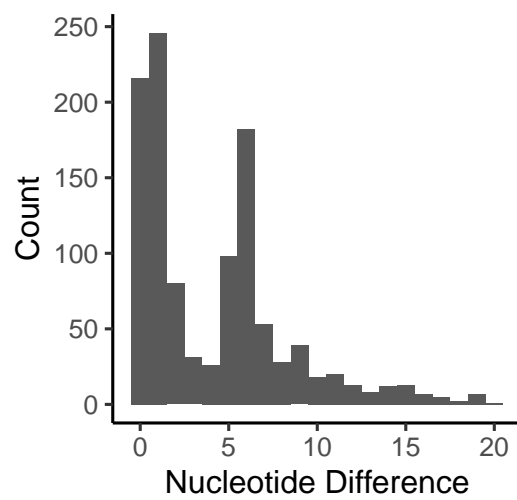
### IGHV3-23\*01\_04

8069 sequences assigned  
805 (10%) exact matches, in which:  
442 unique CDR3  
6 unique J



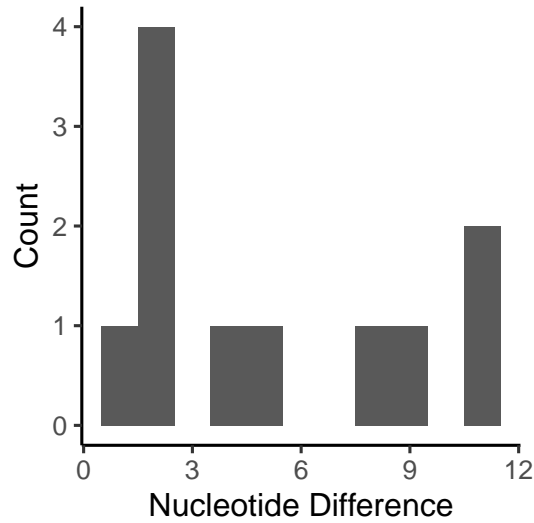
### IGHV3-33\*01

1193 sequences assigned  
216 (18.1%) exact matches, in which:  
140 unique CDR3  
4 unique J



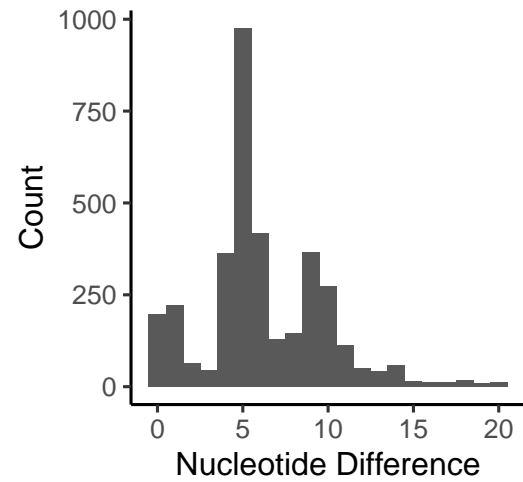
### IGHV3-38-3\*01

11 sequences assigned  
No exact matches.



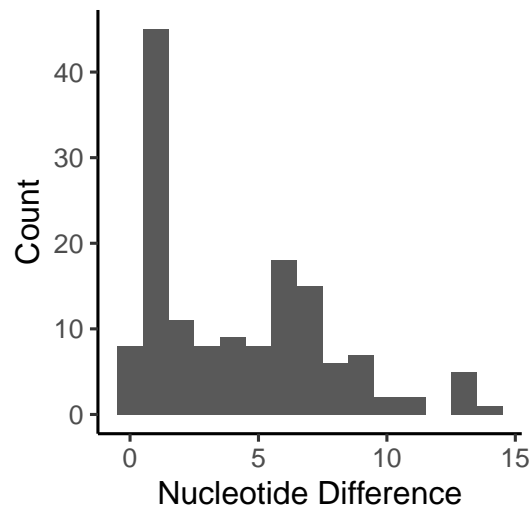
### IGHV3-48\*02

3792 sequences assigned  
197 (5.2%) exact matches, in which:  
126 unique CDR3  
6 unique J



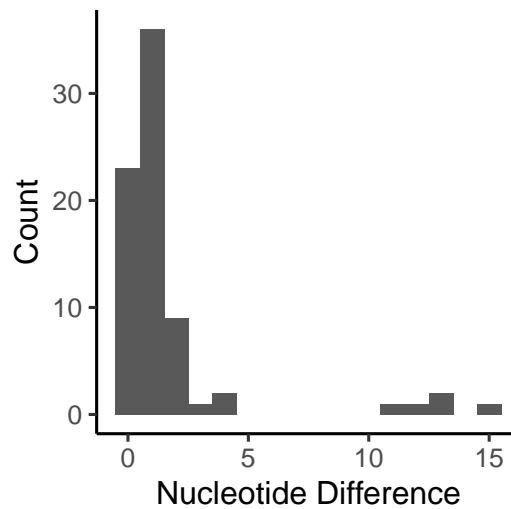
### IGHV3-33\*06

145 sequences assigned  
8 (5.5%) exact matches, in which:  
7 unique CDR3  
2 unique J



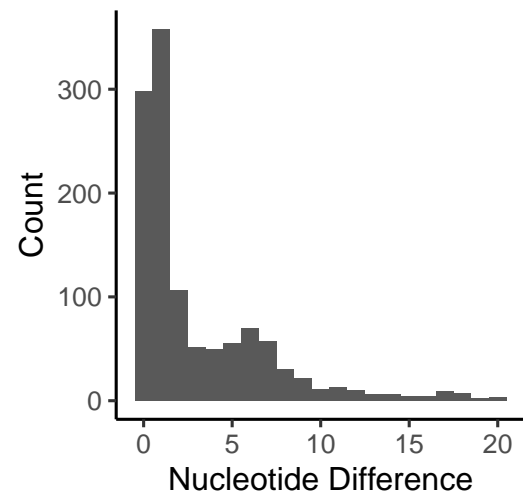
### IGHV3-43\*01

108 sequences assigned  
23 (21.3%) exact matches, in which:  
12 unique CDR3  
3 unique J



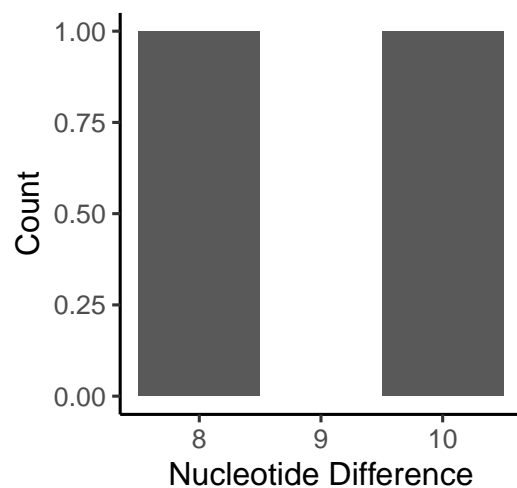
### IGHV3-48\*03

1184 sequences assigned  
298 (25.2%) exact matches, in which:  
175 unique CDR3  
5 unique J



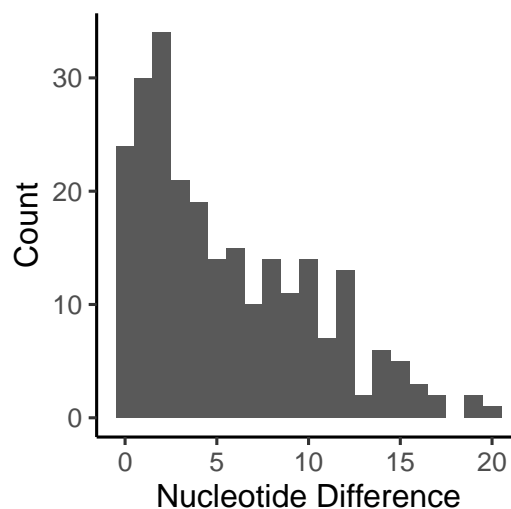
### IGHV3-35\*01

2 sequences assigned  
No exact matches.



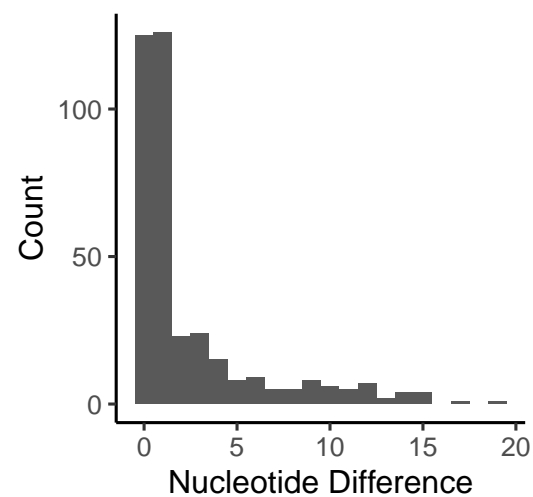
### IGHV3-48\*01

257 sequences assigned  
24 (9.3%) exact matches, in which:  
24 unique CDR3  
5 unique J



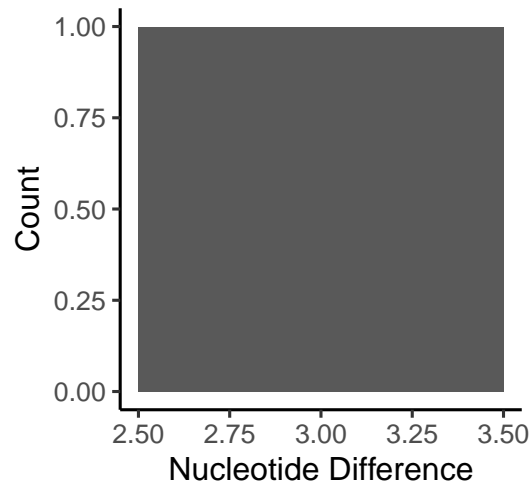
### IGHV3-49\*04

385 sequences assigned  
125 (32.5%) exact matches, in which:  
74 unique CDR3  
4 unique J



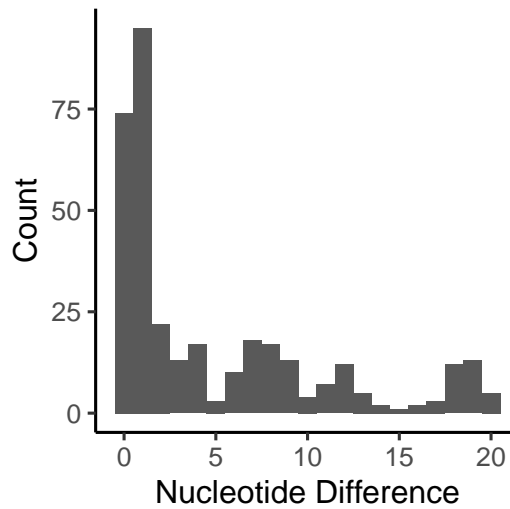
### IGHV3-52\*01\_03

1 sequences assigned  
No exact matches.



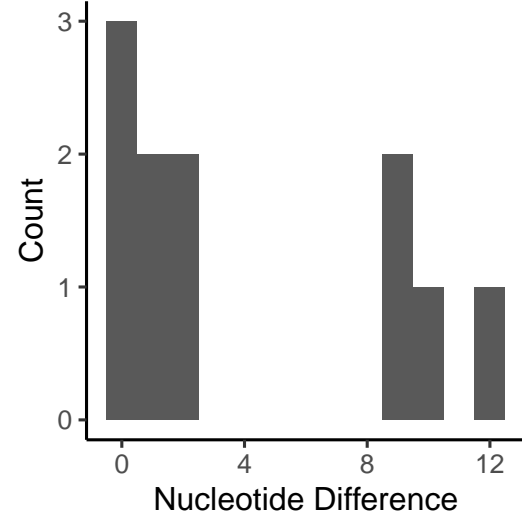
### IGHV3-53\*01\_02

420 sequences assigned  
74 (17.6%) exact matches, in which:  
49 unique CDR3  
5 unique J



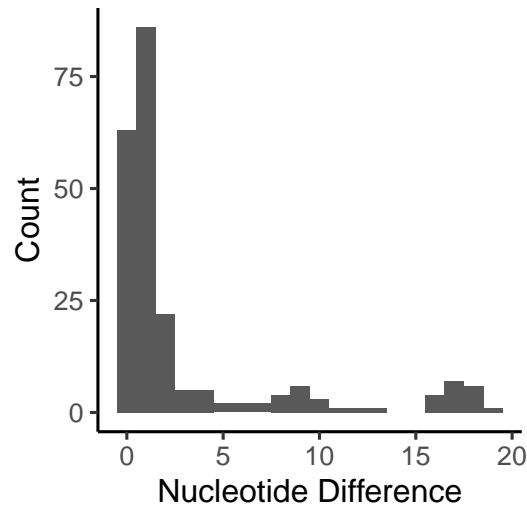
### IGHV3-66\*03

11 sequences assigned  
3 (27.3%) exact matches, in which:  
3 unique CDR3  
3 unique J



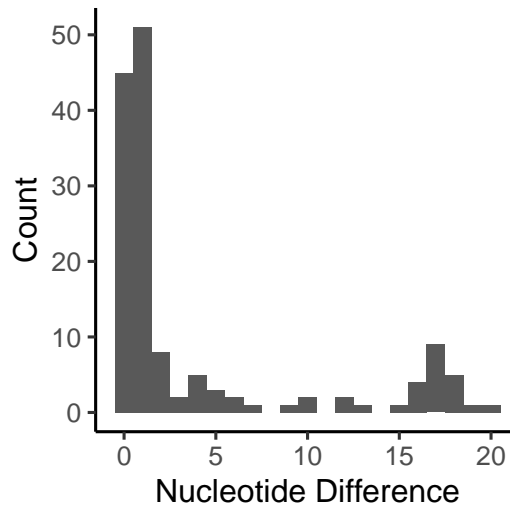
### IGHV3-53\*04

442 sequences assigned  
63 (14.3%) exact matches, in which:  
42 unique CDR3  
5 unique J



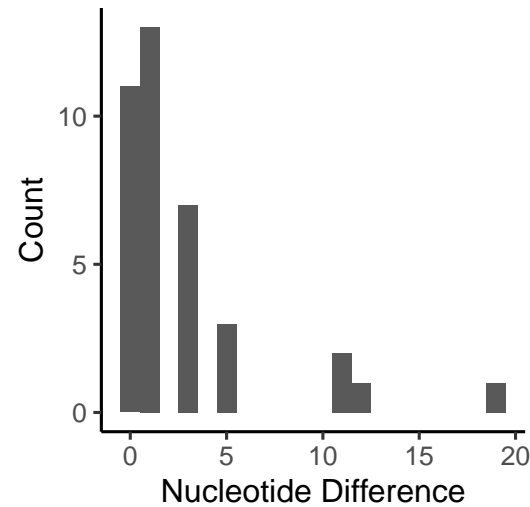
### IGHV3-64\*01

149 sequences assigned  
45 (30.2%) exact matches, in which:  
30 unique CDR3  
4 unique J



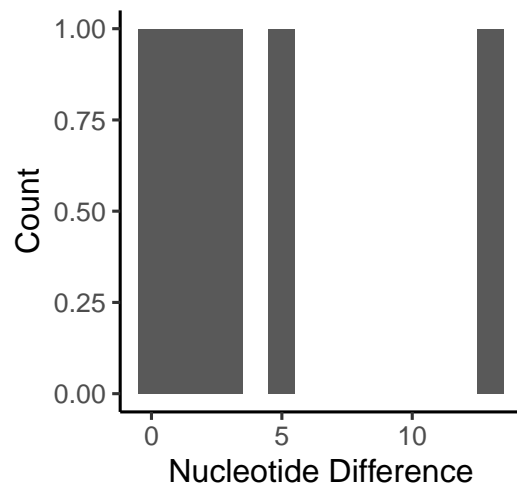
### IGHV3-69-1\*01

39 sequences assigned  
11 (28.2%) exact matches, in which:  
9 unique CDR3  
3 unique J



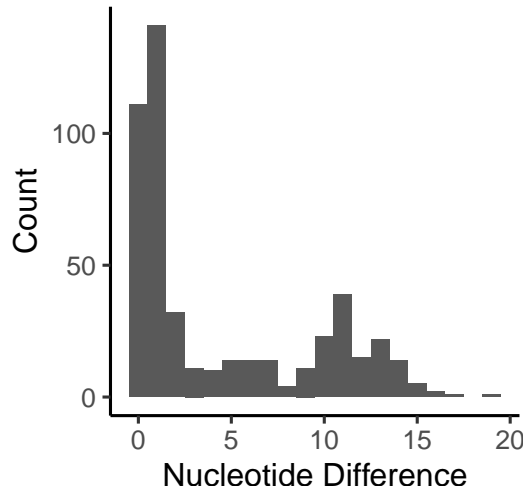
### IGHV3-53\*05

7 sequences assigned  
1 (14.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



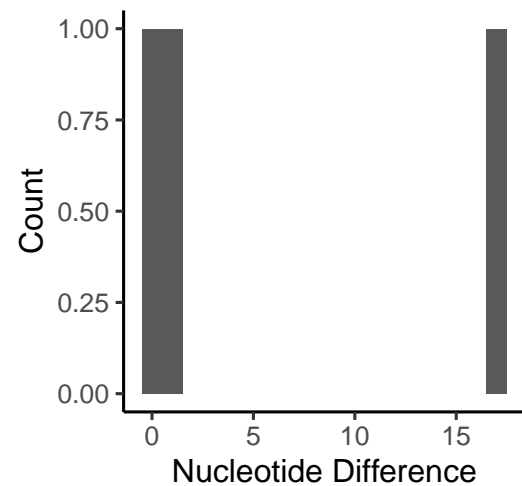
### IGHV3-66\*01

487 sequences assigned  
111 (22.8%) exact matches, in which:  
69 unique CDR3  
4 unique J



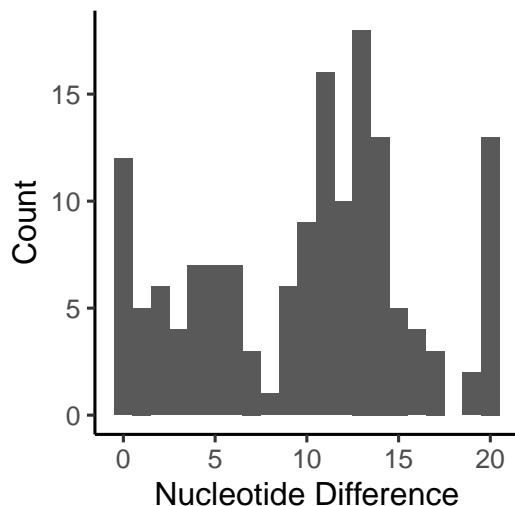
### IGHV3-69-1\*02

7 sequences assigned  
1 (14.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



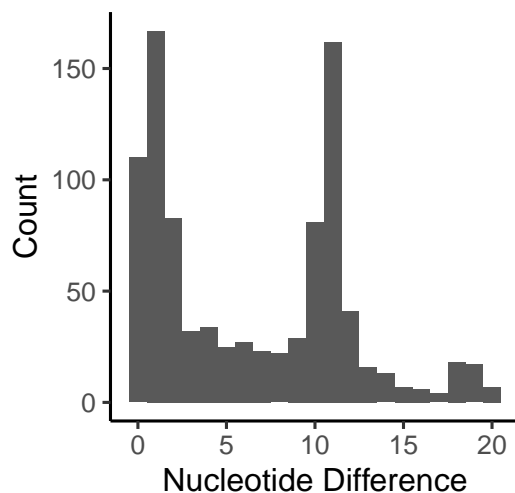
### IGHV3-72\*01

187 sequences assigned  
12 (6.4%) exact matches, in which:  
10 unique CDR3  
3 unique J



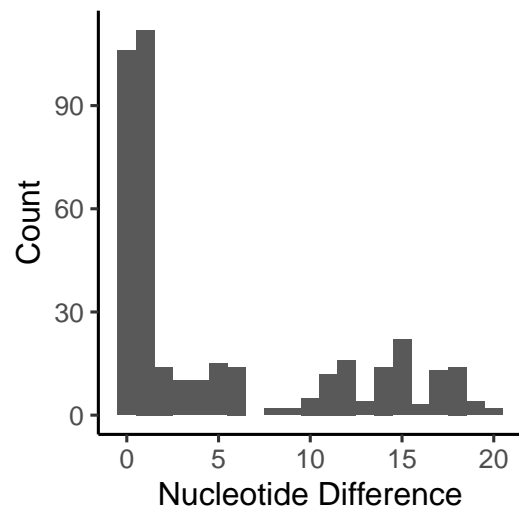
### IGHV3-74\*01\_02

1018 sequences assigned  
110 (10.8%) exact matches, in which:  
66 unique CDR3  
5 unique J



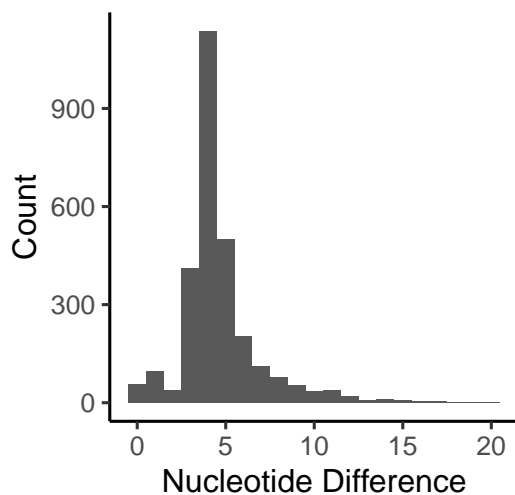
### IGHV3-64D\*06

502 sequences assigned  
106 (21.1%) exact matches, in which:  
65 unique CDR3  
6 unique J



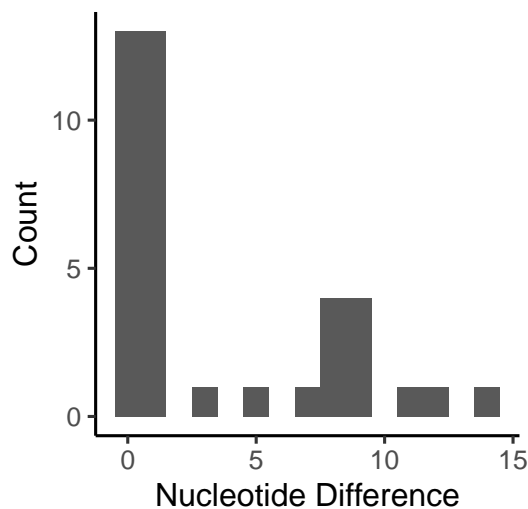
### IGHV3-73\*01\_02

2868 sequences assigned  
56 (2%) exact matches, in which:  
32 unique CDR3  
5 unique J



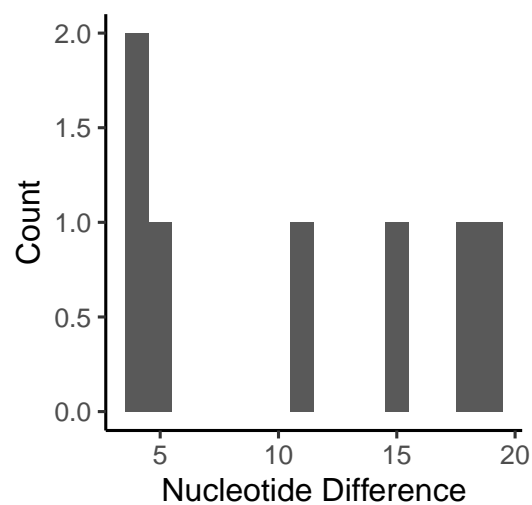
### IGHV3-43D\*03

40 sequences assigned  
13 (32.5%) exact matches, in which:  
5 unique CDR3  
3 unique J



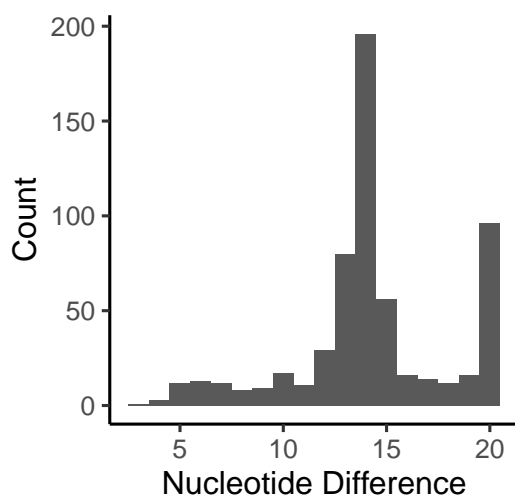
### IGHV3-NL1\*01

8 sequences assigned  
No exact matches.



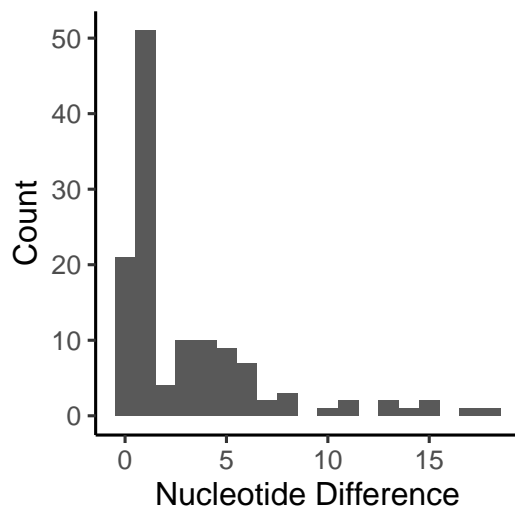
### IGHV3-74\*03

928 sequences assigned  
No exact matches.



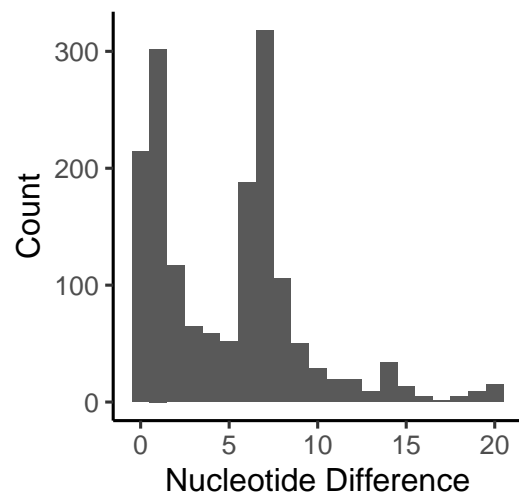
### IGHV3-43D\*04

127 sequences assigned  
21 (16.5%) exact matches, in which:  
11 unique CDR3  
2 unique J



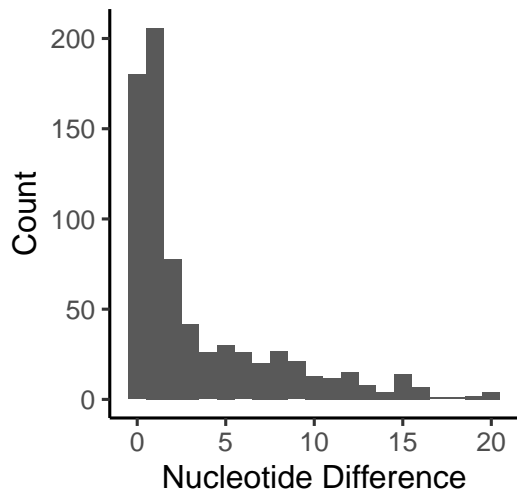
### IGHV4-4\*07

1863 sequences assigned  
214 (11.5%) exact matches, in which:  
165 unique CDR3  
6 unique J



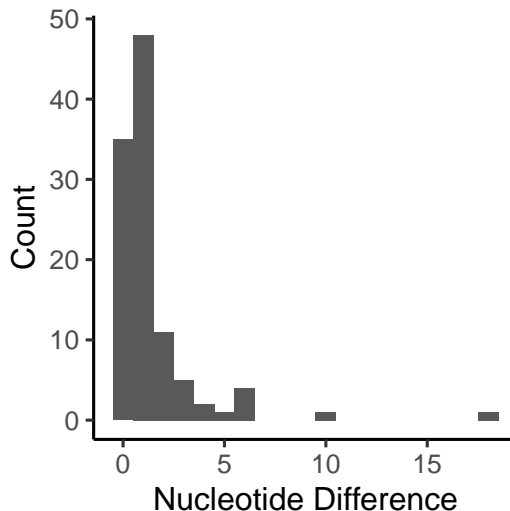
### IGHV4-4\*02\_03

817 sequences assigned  
180 (22%) exact matches, in which:  
130 unique CDR3  
6 unique J



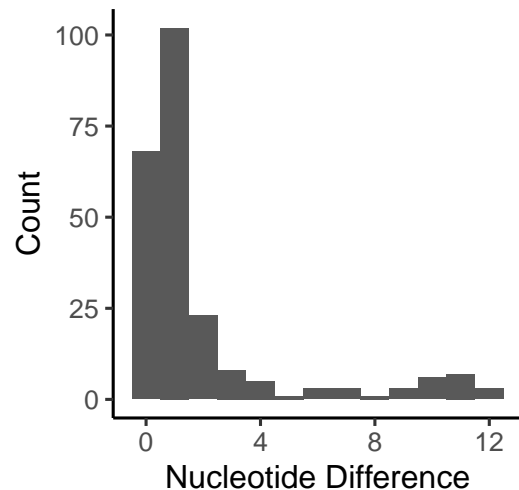
### IGHV4-30-2\*01

108 sequences assigned  
35 (32.4%) exact matches, in which:  
18 unique CDR3  
4 unique J



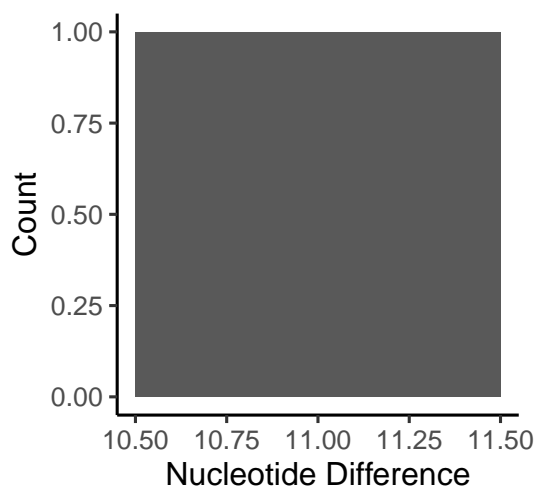
### IGHV4-30-4\*07

248 sequences assigned  
68 (27.4%) exact matches, in which:  
41 unique CDR3  
6 unique J



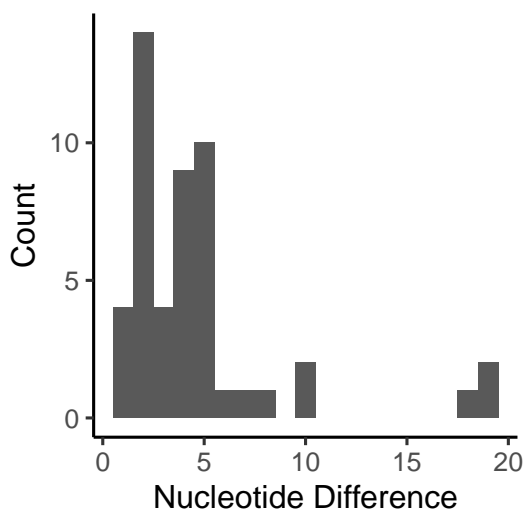
### IGHV4-28\*03

1 sequences assigned  
No exact matches.



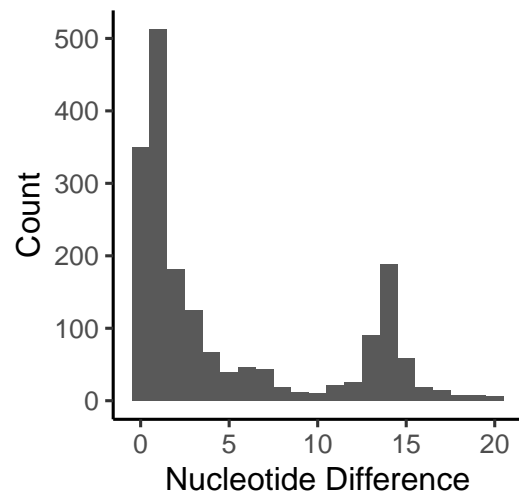
### IGHV4-30-2\*03

51 sequences assigned  
No exact matches.



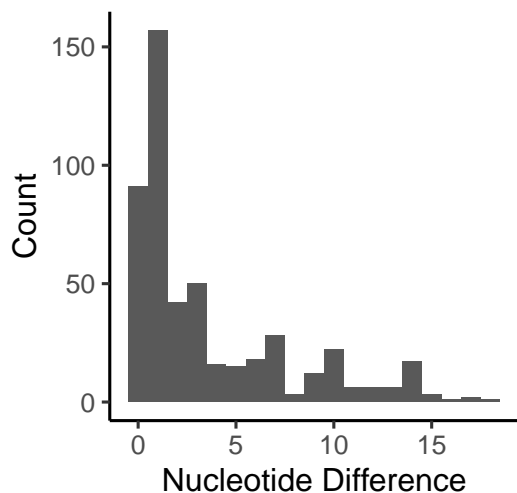
### IGHV4-31\*02

1921 sequences assigned  
350 (18.2%) exact matches, in which:  
283 unique CDR3  
6 unique J



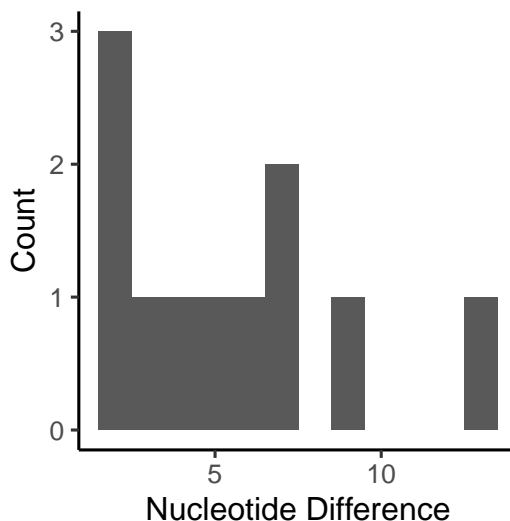
### IGHV4-30-4\*01

499 sequences assigned  
91 (18.2%) exact matches, in which:  
71 unique CDR3  
4 unique J



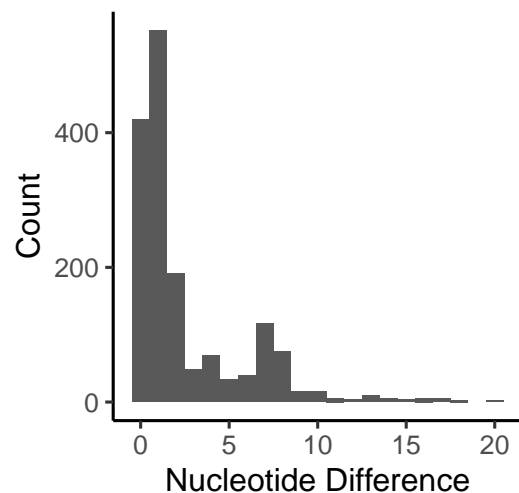
### IGHV4-30-2\*05

11 sequences assigned  
No exact matches.



### IGHV4-34\*01\_02

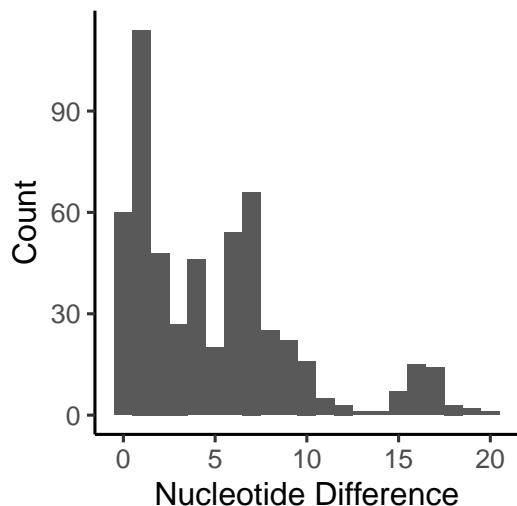
1746 sequences assigned  
419 (24%) exact matches, in which:  
267 unique CDR3  
6 unique J





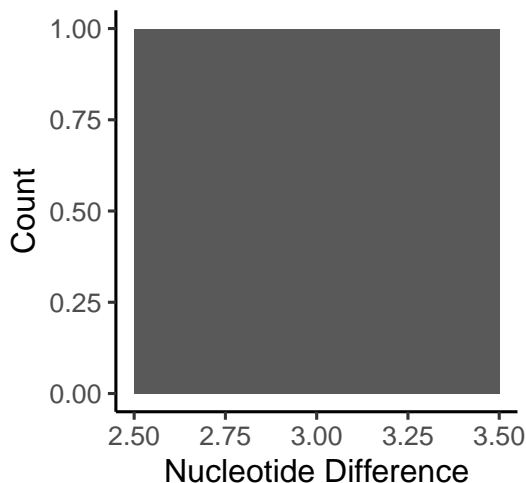
### IGHV4-38-2\*01

558 sequences assigned  
60 (10.8%) exact matches, in which:  
44 unique CDR3  
6 unique J



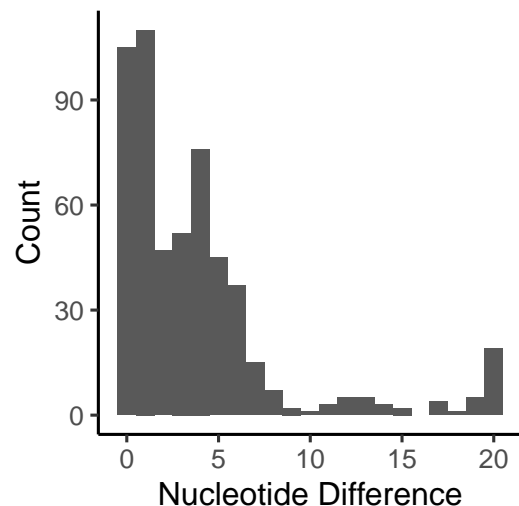
### IGHV4-55\*09

1 sequences assigned  
No exact matches.



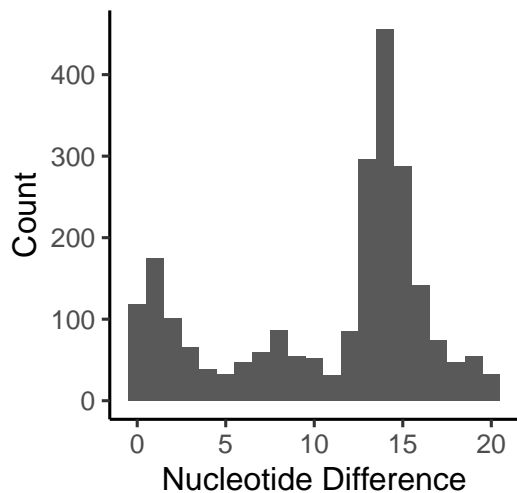
### IGHV4-61\*01

591 sequences assigned  
105 (17.8%) exact matches, in which:  
93 unique CDR3  
4 unique J



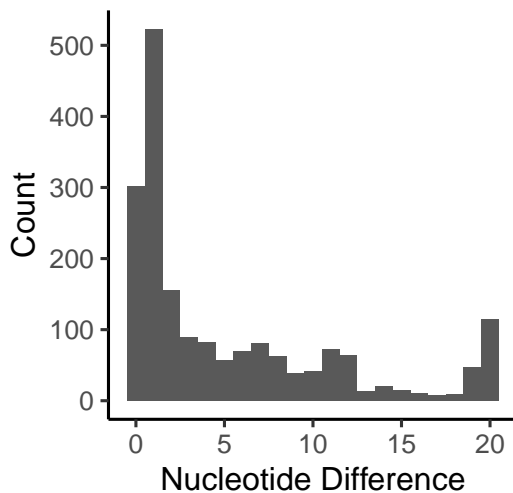
### IGHV4-38-2\*02

2381 sequences assigned  
118 (5%) exact matches, in which:  
94 unique CDR3  
6 unique J



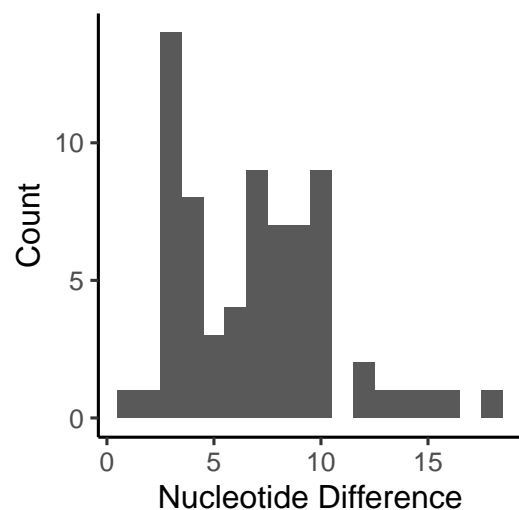
### IGHV4-59\*08

2273 sequences assigned  
302 (13.3%) exact matches, in which:  
221 unique CDR3  
6 unique J



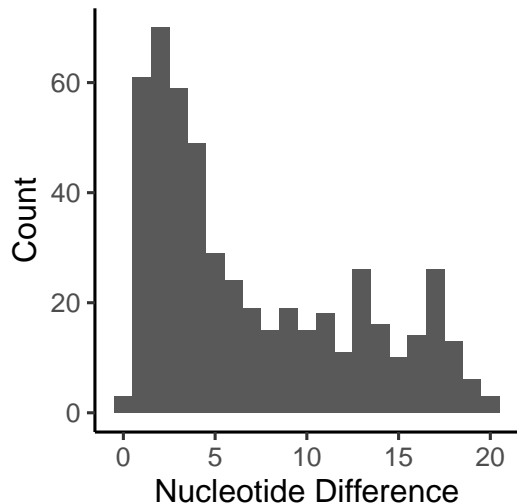
### IGHV4-61\*02

75 sequences assigned  
No exact matches.



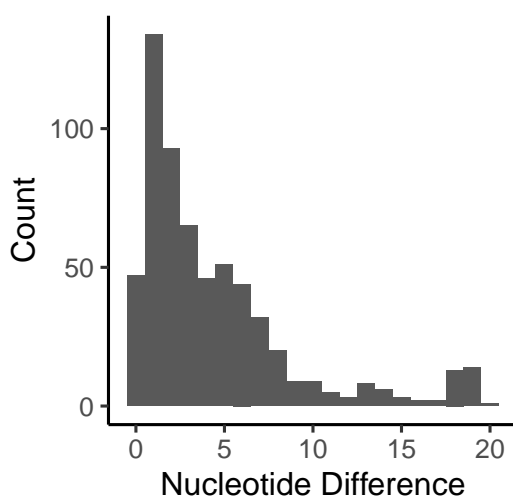
### IGHV4-39\*07

515 sequences assigned  
3 (0.6%) exact matches, in which:  
3 unique CDR3  
2 unique J



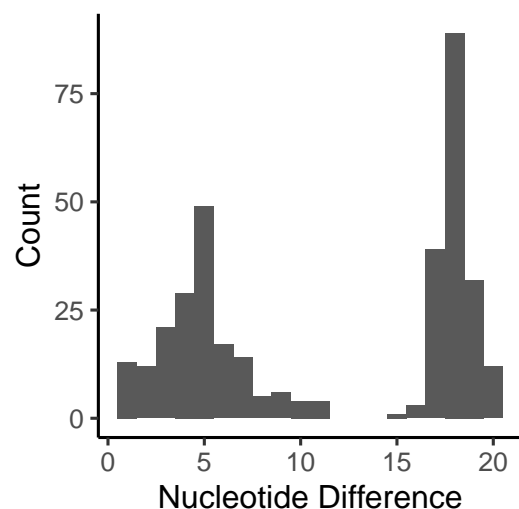
### IGHV4-59\*12

807 sequences assigned  
47 (5.8%) exact matches, in which:  
47 unique CDR3  
6 unique J



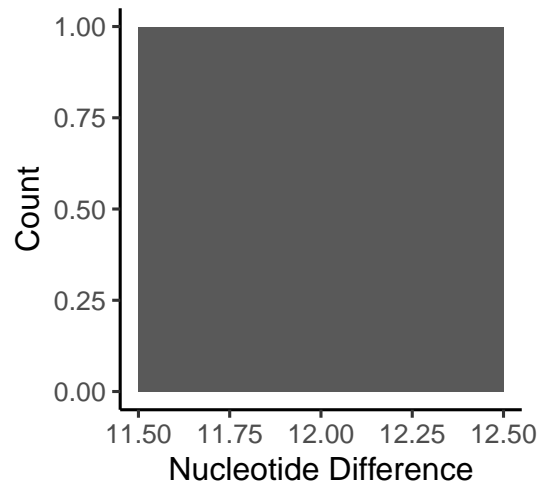
### IGHV4-61\*08

380 sequences assigned  
No exact matches.



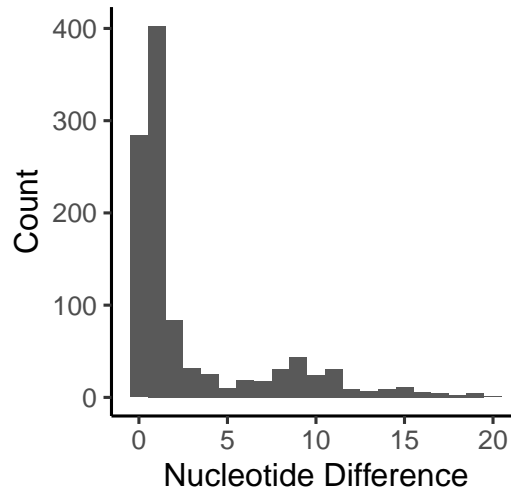
### IGHV1/OR15-2\*02\_03

1 sequences assigned  
No exact matches.



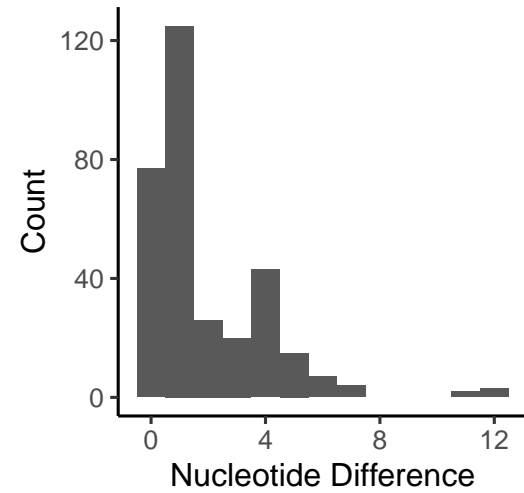
### IGHV5-10-1\*01\_03

1104 sequences assigned  
284 (25.7%) exact matches, in which:  
174 unique CDR3  
5 unique J



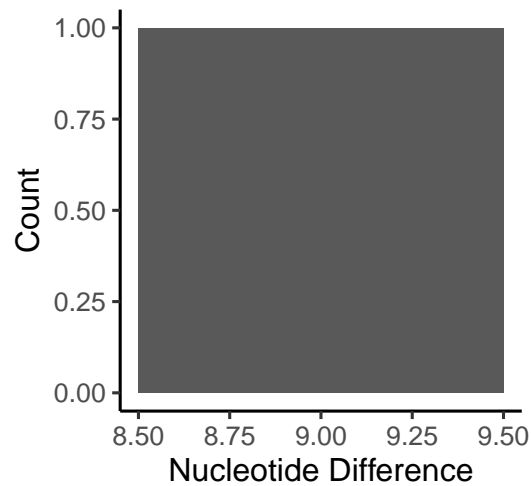
### IGHV6-1\*01\_02

322 sequences assigned  
77 (23.9%) exact matches, in which:  
62 unique CDR3  
4 unique J



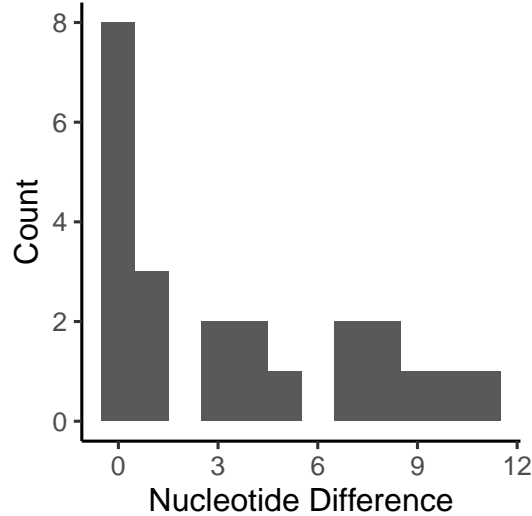
### IGHV1/OR15-3\*02

1 sequences assigned  
No exact matches.



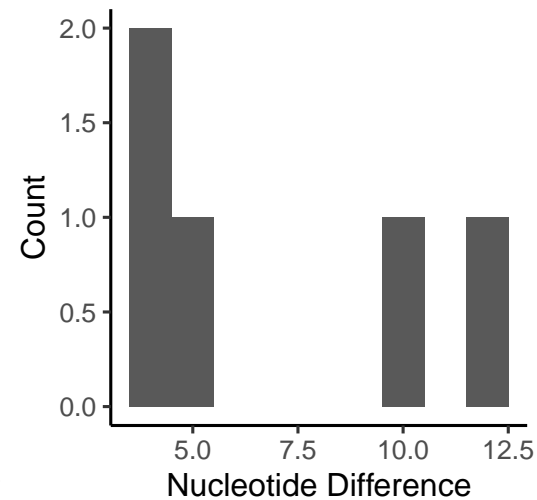
### IGHV5-51\*04

23 sequences assigned  
8 (34.8%) exact matches, in which:  
8 unique CDR3  
4 unique J



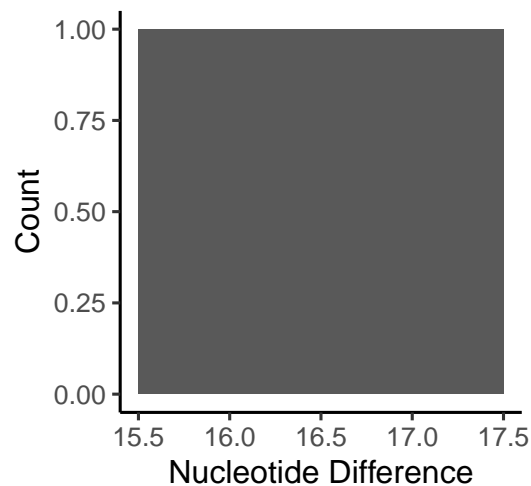
### IGHV7-4-1\*02

5 sequences assigned  
No exact matches.



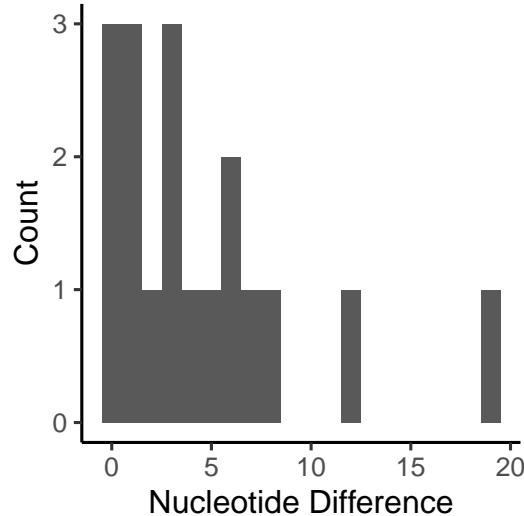
### IGHV4/OR15-8\*01

2 sequences assigned  
No exact matches.



### IGHV5-51\*07

18 sequences assigned  
3 (16.7%) exact matches, in which:  
3 unique CDR3  
1 unique J





Warning – no inferred sequences found.