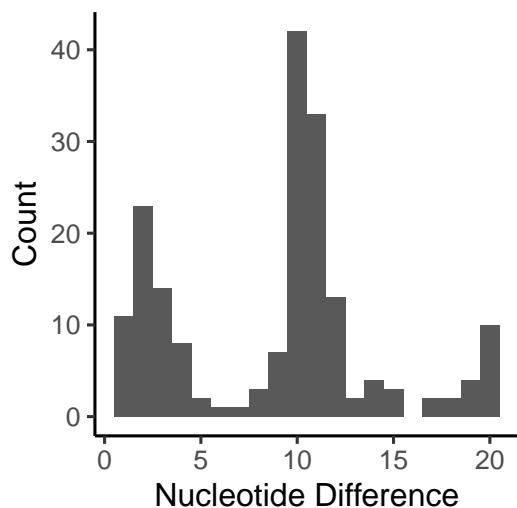


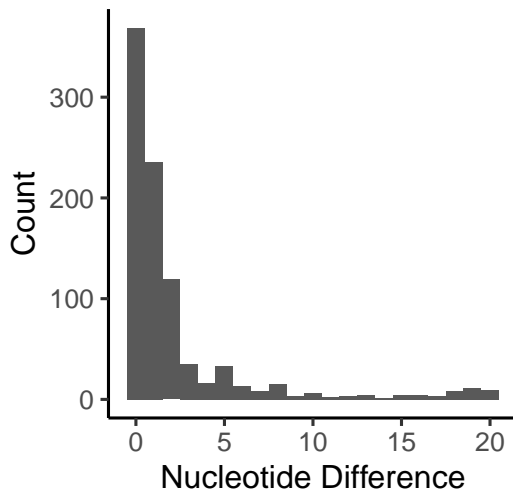
### IGHV1-2\*02

201 sequences assigned  
No exact matches.



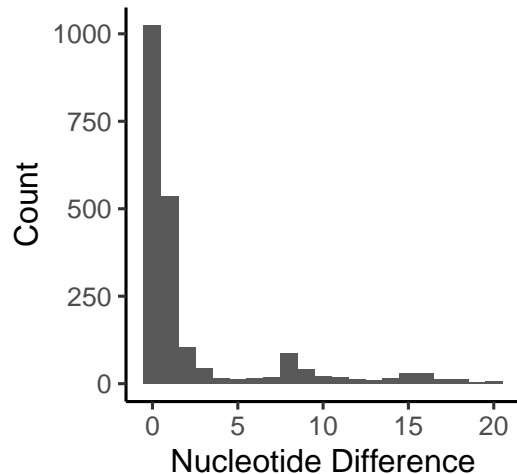
### IGHV1-8\*01

1125 sequences assigned  
369 (32.8%) exact matches, in which:  
357 unique CDR3  
6 unique J



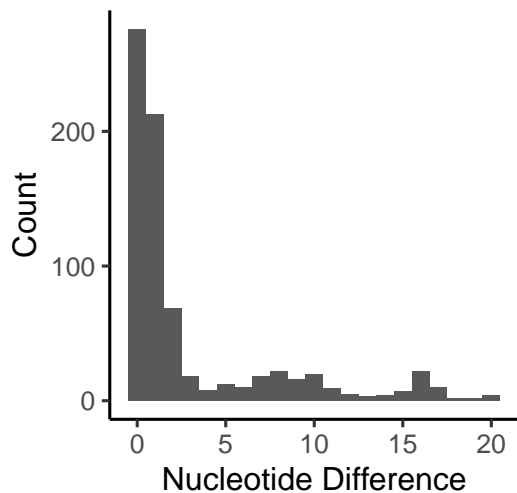
### IGHV1-18\*04

2375 sequences assigned  
1024 (43.1%) exact matches, in which:  
980 unique CDR3  
6 unique J



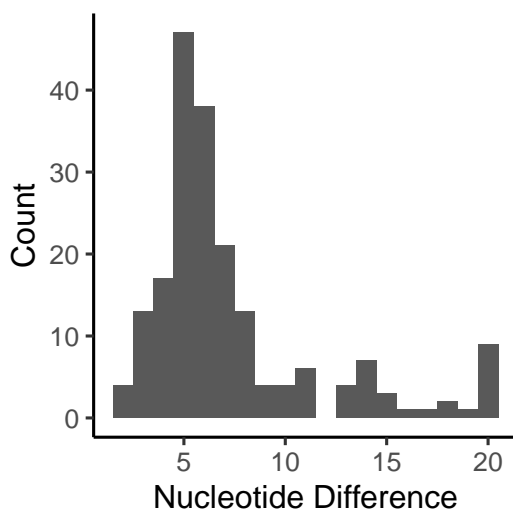
### IGHV1-2\*04

796 sequences assigned  
276 (34.7%) exact matches, in which:  
250 unique CDR3  
6 unique J



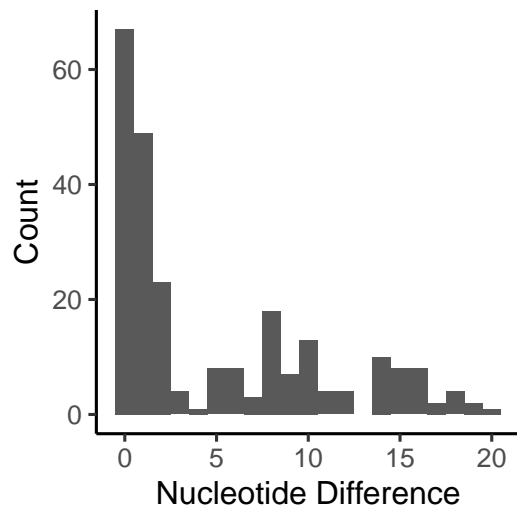
### IGHV1-8\*02

412 sequences assigned  
No exact matches.



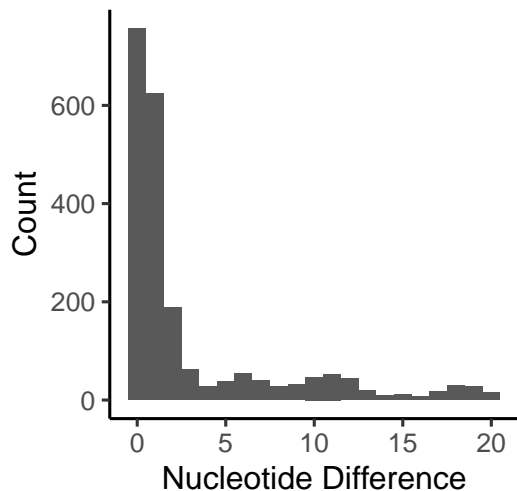
### IGHV1-24\*01

301 sequences assigned  
67 (22.3%) exact matches, in which:  
64 unique CDR3  
6 unique J



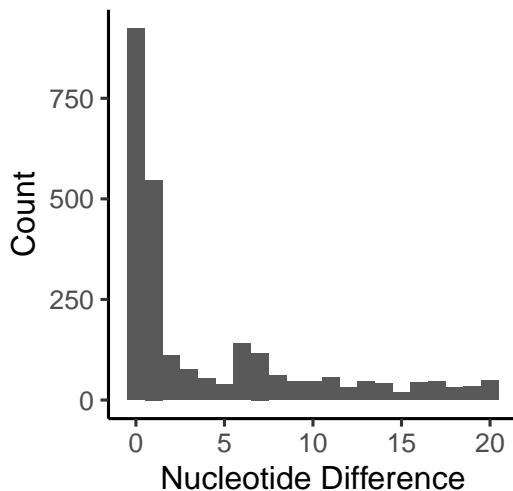
### IGHV1-3\*01\_05

2551 sequences assigned  
757 (29.7%) exact matches, in which:  
679 unique CDR3  
6 unique J



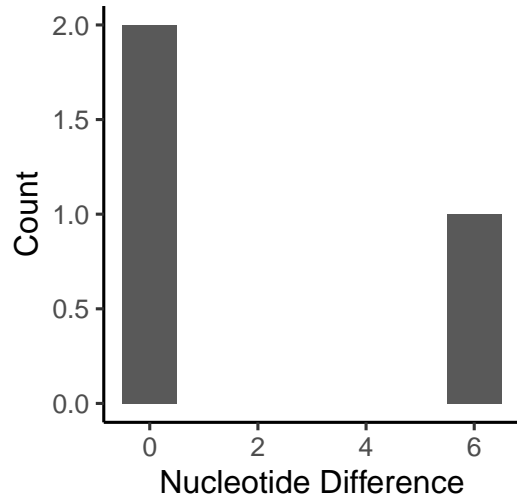
### IGHV1-18\*01

2968 sequences assigned  
924 (31.1%) exact matches, in which:  
887 unique CDR3  
6 unique J



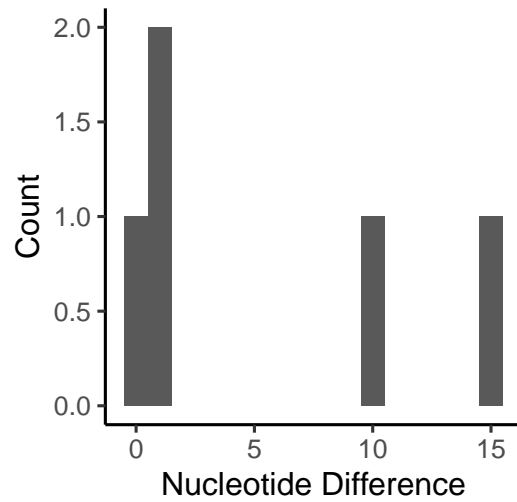
### IGHV1-45\*02

4 sequences assigned  
2 (50%) exact matches, in which:  
2 unique CDR3  
1 unique J



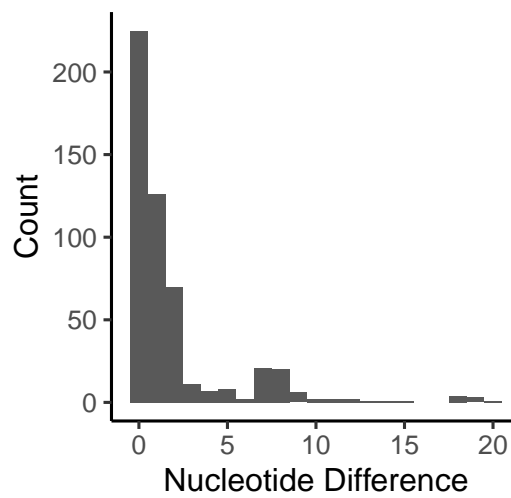
### IGHV1-45\*03

5 sequences assigned  
1 (20%) exact matches, in which:  
1 unique CDR3  
1 unique J



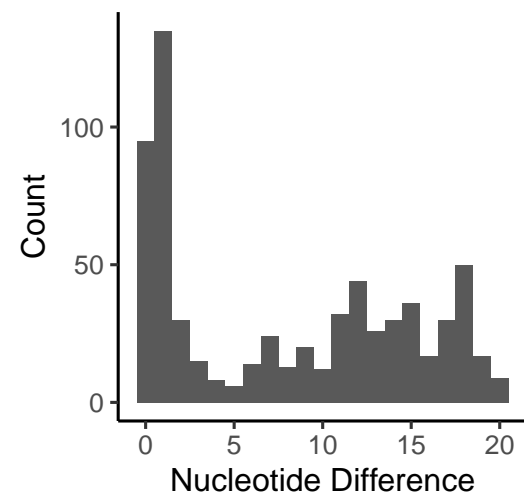
### IGHV1-69\*02

552 sequences assigned  
225 (40.8%) exact matches, in which:  
218 unique CDR3  
6 unique J



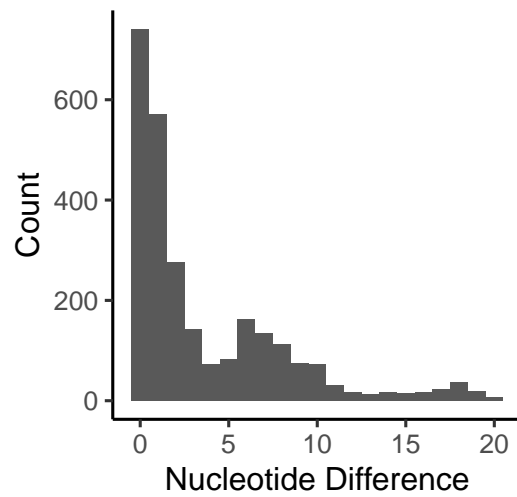
### IGHV2-5\*02

744 sequences assigned  
95 (12.8%) exact matches, in which:  
80 unique CDR3  
5 unique J



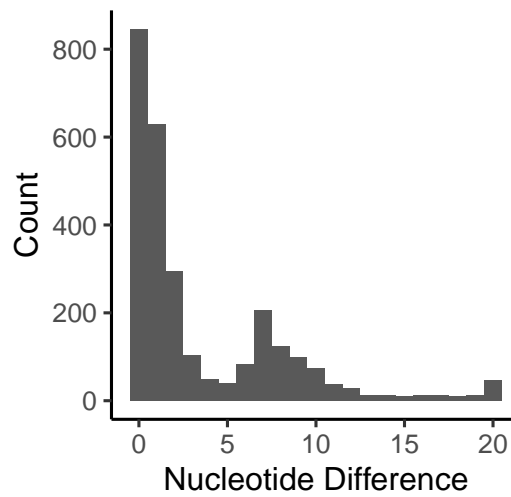
### IGHV1-46\*01

2957 sequences assigned  
741 (25.1%) exact matches, in which:  
696 unique CDR3  
6 unique J



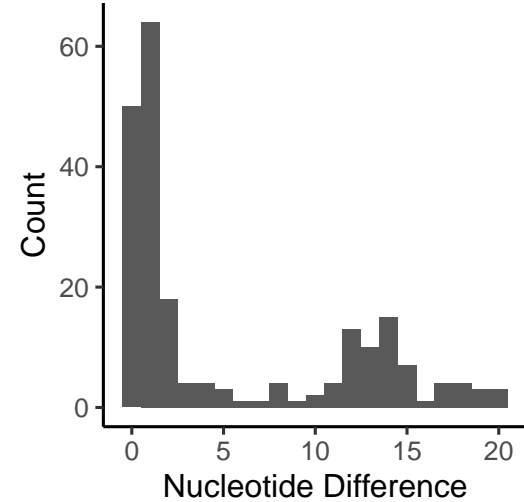
### IGHV1-69\*04\_09

2983 sequences assigned  
846 (28.4%) exact matches, in which:  
796 unique CDR3  
6 unique J



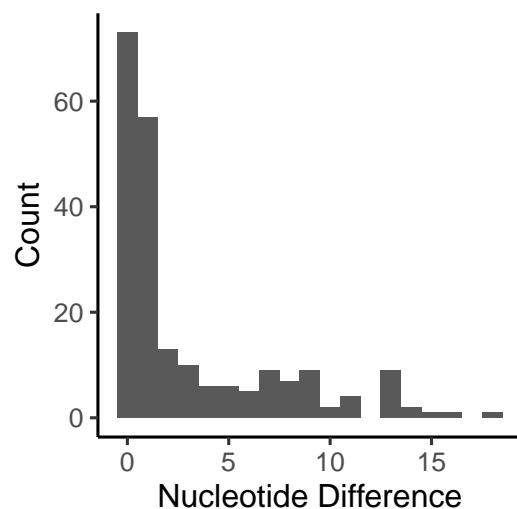
### IGHV2-26\*01

232 sequences assigned  
50 (21.6%) exact matches, in which:  
38 unique CDR3  
4 unique J



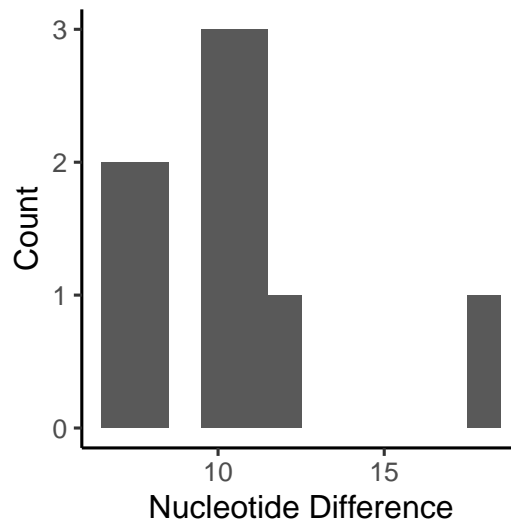
### IGHV1-58\*02

221 sequences assigned  
73 (33%) exact matches, in which:  
70 unique CDR3  
5 unique J



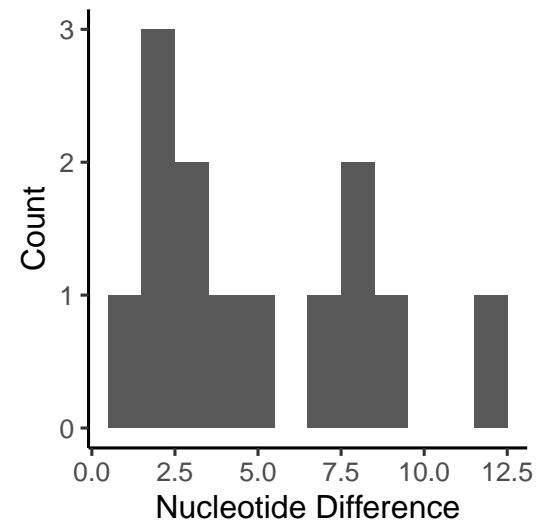
### IGHV1-NL1\*01

12 sequences assigned  
No exact matches.



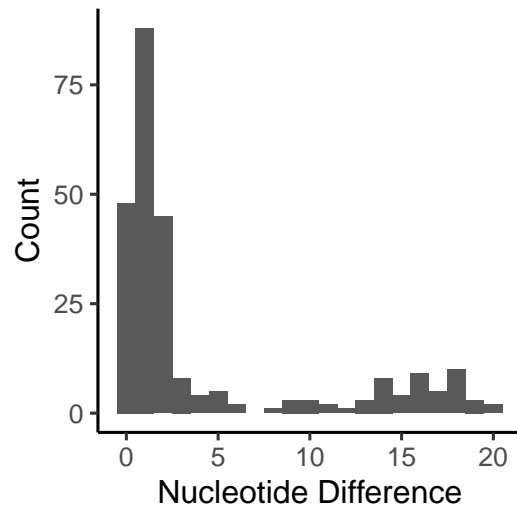
### IGHV2-70\*12

13 sequences assigned  
No exact matches.



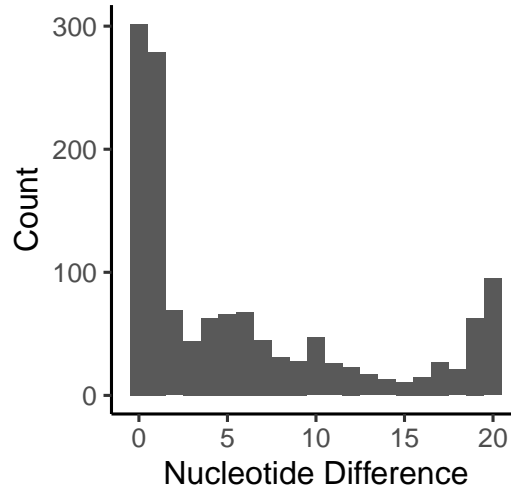
### IGHV2-70\*11\_15

281 sequences assigned  
48 (17.1%) exact matches, in which:  
40 unique CDR3  
5 unique J



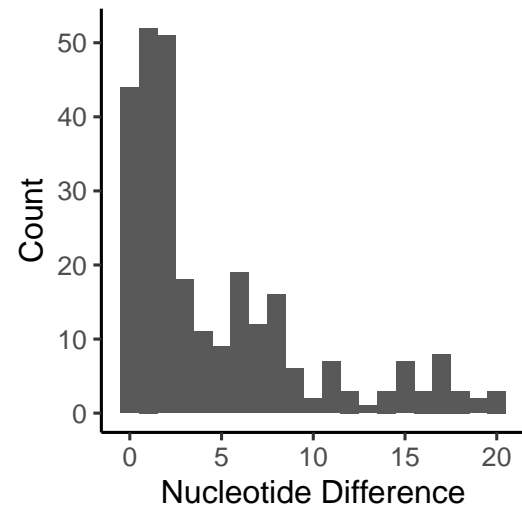
### IGHV3-7\*03

2237 sequences assigned  
302 (13.5%) exact matches, in which:  
242 unique CDR3  
6 unique J



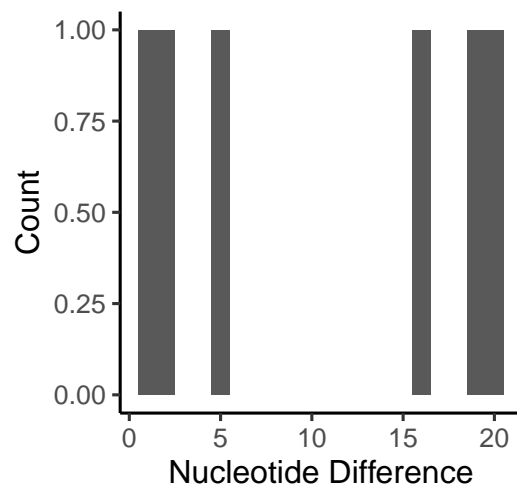
### IGHV3-11\*04

319 sequences assigned  
44 (13.8%) exact matches, in which:  
44 unique CDR3  
4 unique J



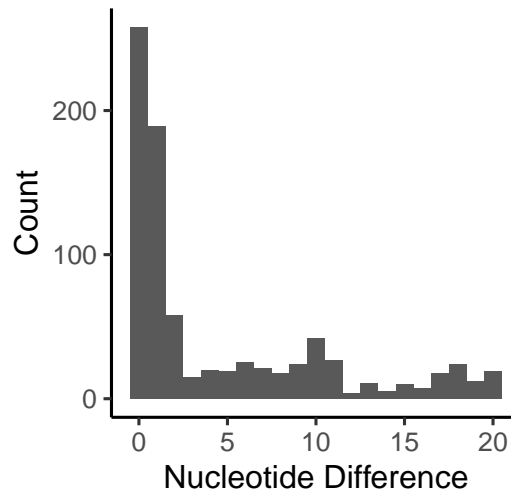
### IGHV2-70D\*04

11 sequences assigned  
No exact matches.



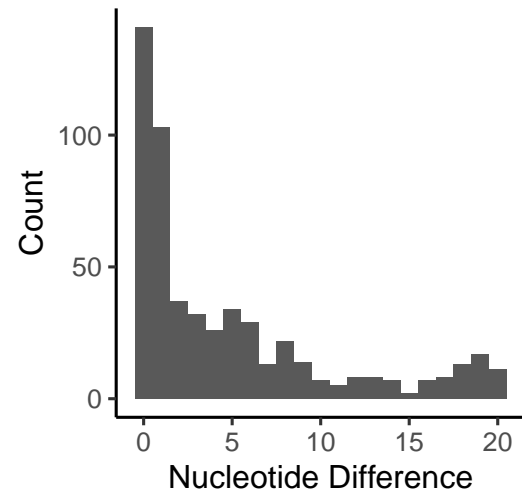
### IGHV3-9\*01

1130 sequences assigned  
258 (22.8%) exact matches, in which:  
196 unique CDR3  
6 unique J



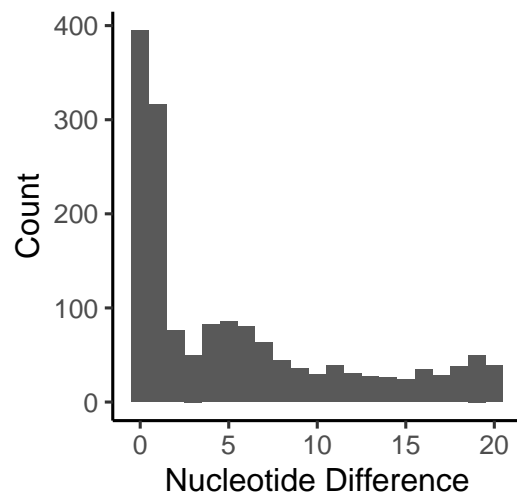
### IGHV3-11\*06

843 sequences assigned  
141 (16.7%) exact matches, in which:  
116 unique CDR3  
5 unique J



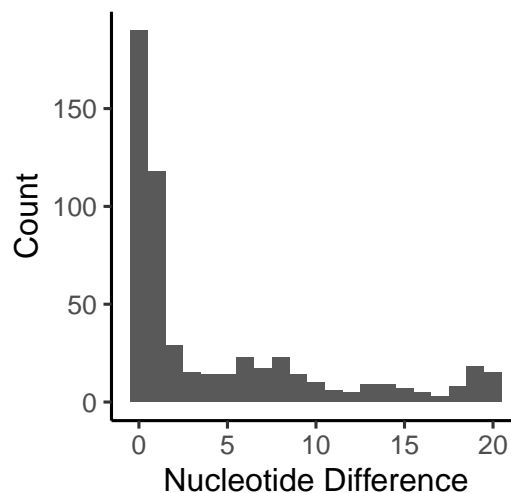
### IGHV3-7\*01

2424 sequences assigned  
395 (16.3%) exact matches, in which:  
341 unique CDR3  
6 unique J



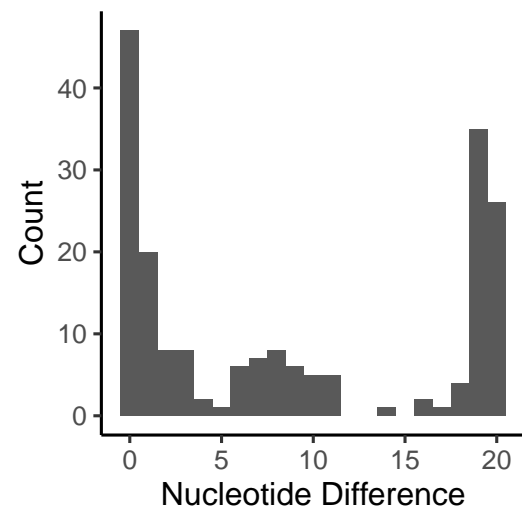
### IGHV3-11\*01

762 sequences assigned  
190 (24.9%) exact matches, in which:  
155 unique CDR3  
6 unique J



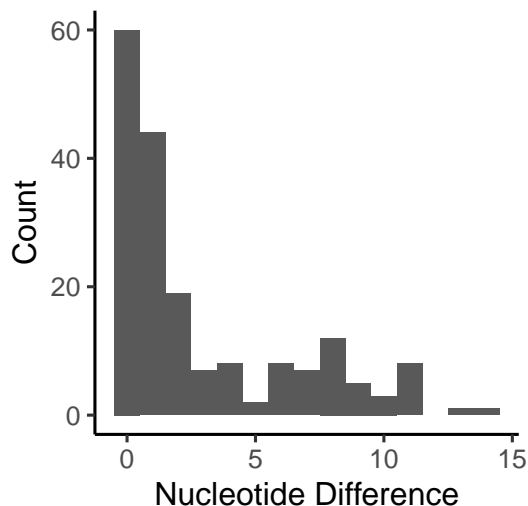
### IGHV3-13\*01

280 sequences assigned  
47 (16.8%) exact matches, in which:  
43 unique CDR3  
4 unique J



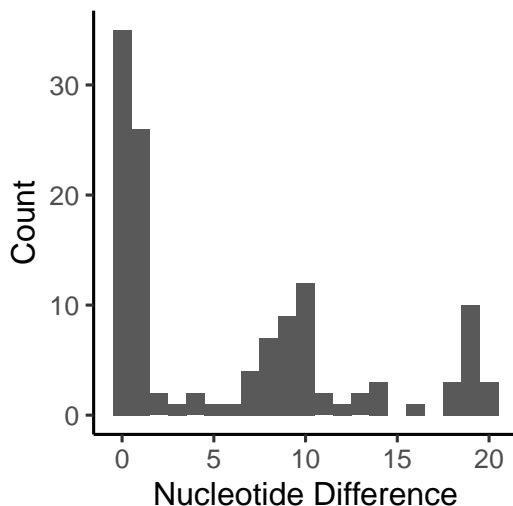
### IGHV3-13\*05

186 sequences assigned  
60 (32.3%) exact matches, in which:  
50 unique CDR3  
5 unique J



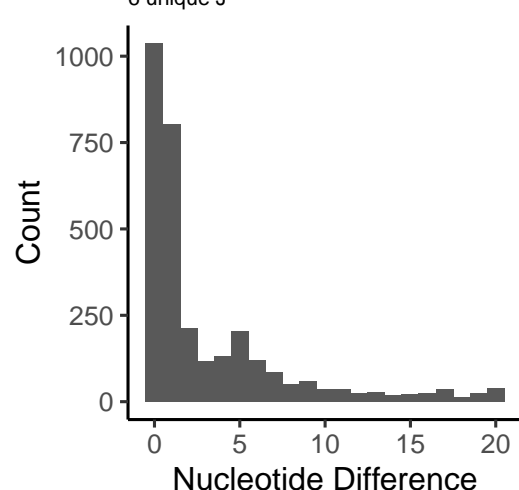
### IGHV3-20\*01\_02

170 sequences assigned  
35 (20.6%) exact matches, in which:  
25 unique CDR3  
4 unique J



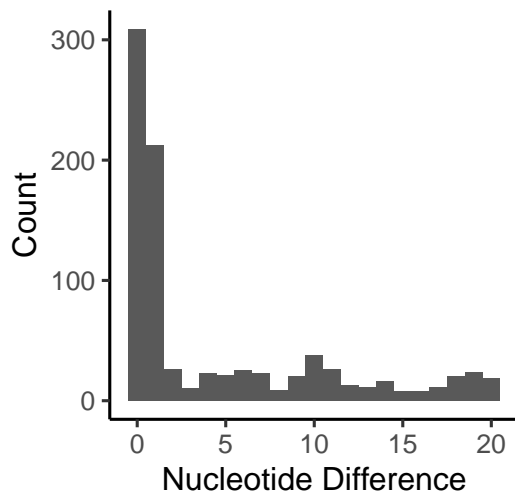
### IGHV3-21\*01\_02

3934 sequences assigned  
1037 (26.4%) exact matches, in which:  
819 unique CDR3  
6 unique J



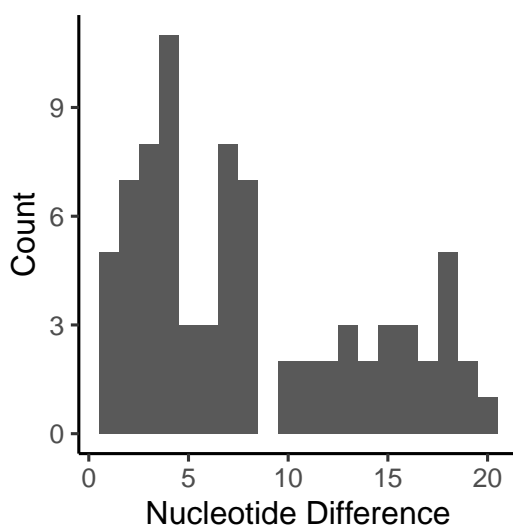
### IGHV3-15\*01\_02

1182 sequences assigned  
309 (26.1%) exact matches, in which:  
202 unique CDR3  
6 unique J



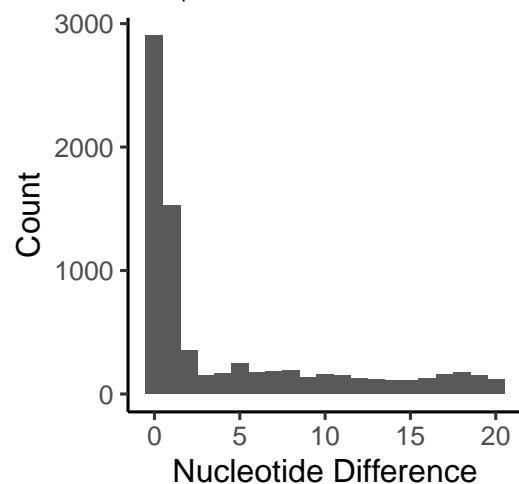
### IGHV3-20\*03\_04

124 sequences assigned  
No exact matches.



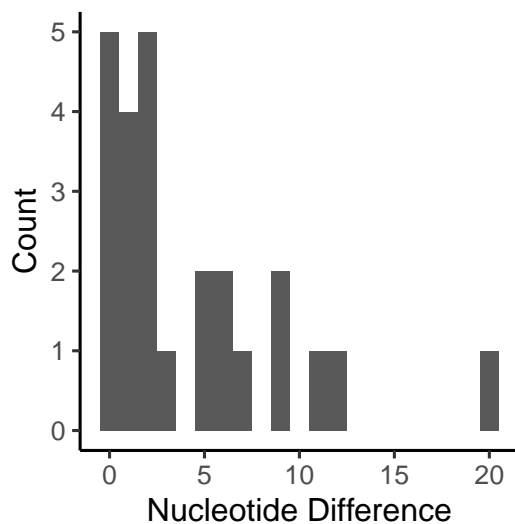
### IGHV3-23\*01\_04

10541 sequences assigned  
2902 (27.5%) exact matches, in which:  
2290 unique CDR3  
6 unique J



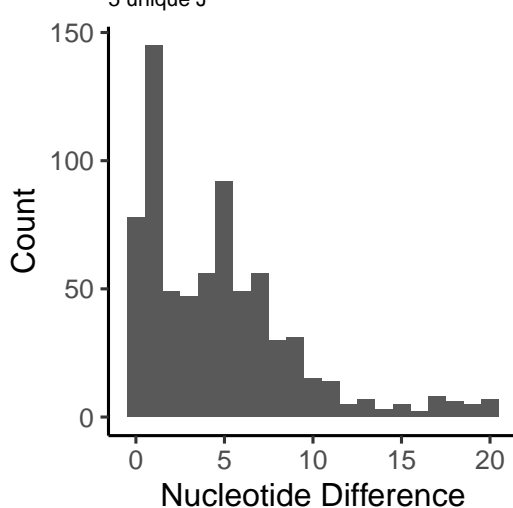
### IGHV3-19\*01

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



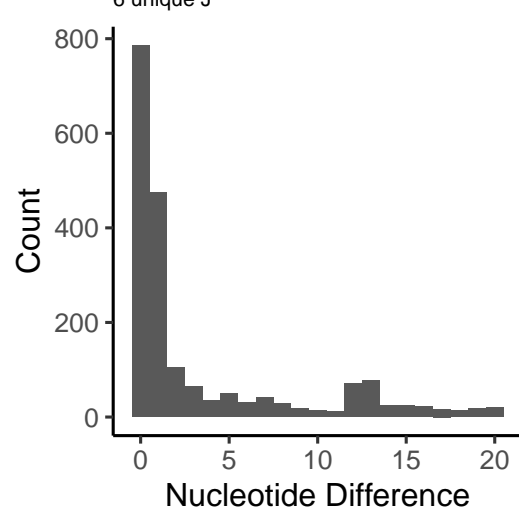
### IGHV3-21\*04

864 sequences assigned  
78 (9%) exact matches, in which:  
72 unique CDR3  
5 unique J



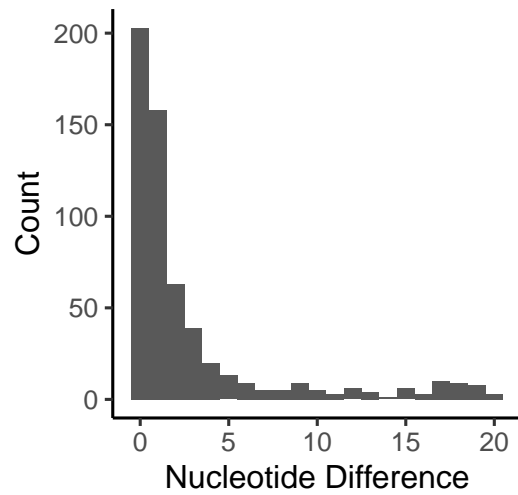
### IGHV3-30-3\*01

2280 sequences assigned  
786 (34.5%) exact matches, in which:  
642 unique CDR3  
6 unique J



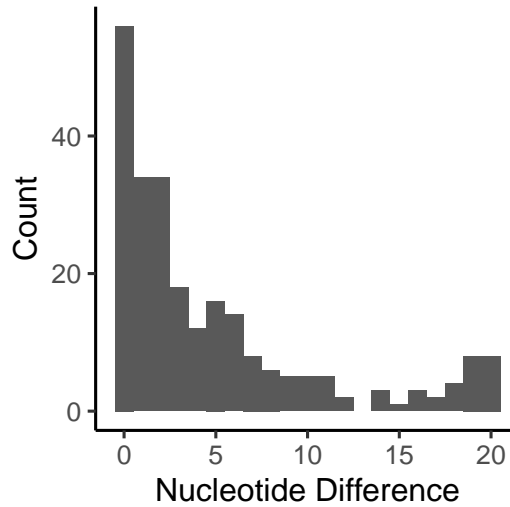
### IGHV3-30\*03

721 sequences assigned  
203 (28.2%) exact matches, in which:  
194 unique CDR3  
5 unique J



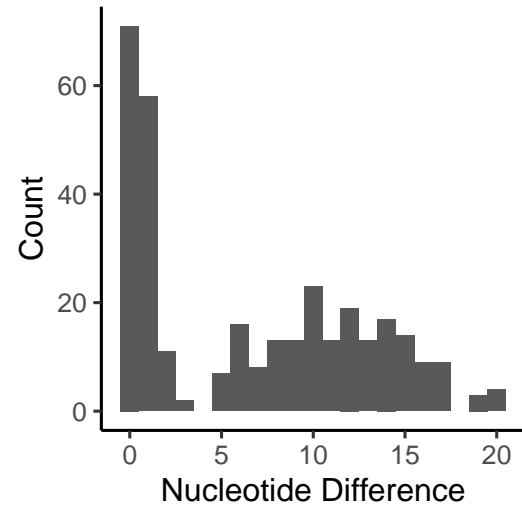
### IGHV3-33\*08

427 sequences assigned  
56 (13.1%) exact matches, in which:  
46 unique CDR3  
5 unique J



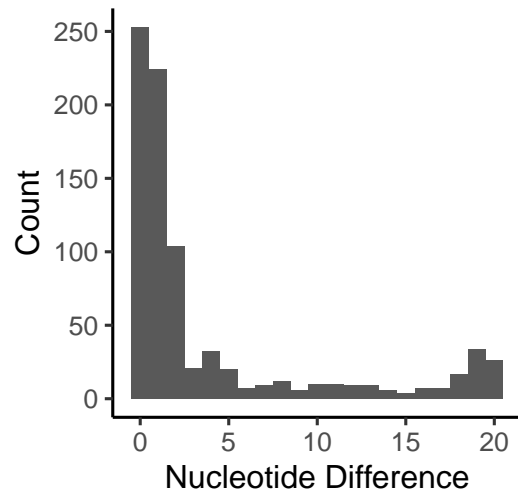
### IGHV3-43\*02

422 sequences assigned  
71 (16.8%) exact matches, in which:  
53 unique CDR3  
5 unique J



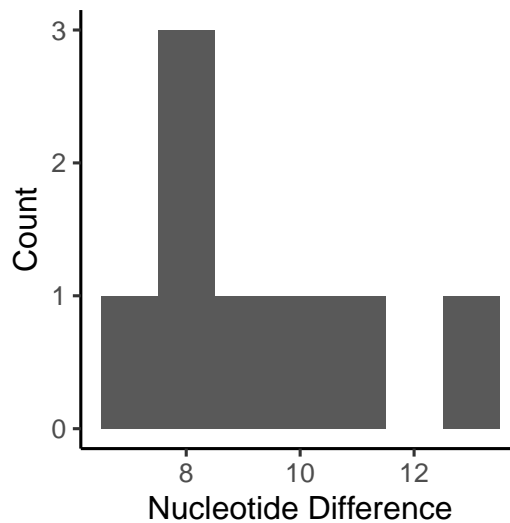
### IGHV3-33\*01

1103 sequences assigned  
253 (22.9%) exact matches, in which:  
203 unique CDR3  
6 unique J



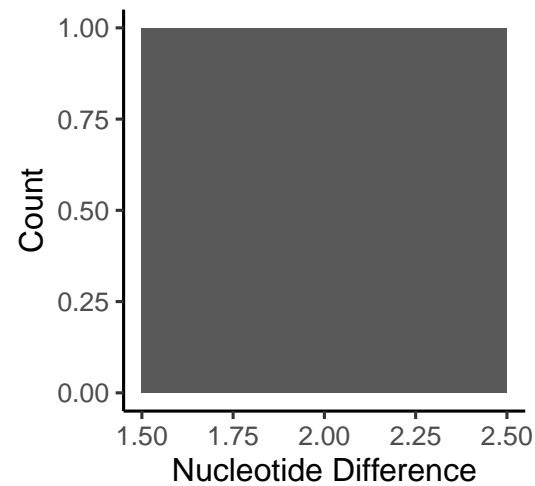
### IGHV3-35\*01

8 sequences assigned  
No exact matches.



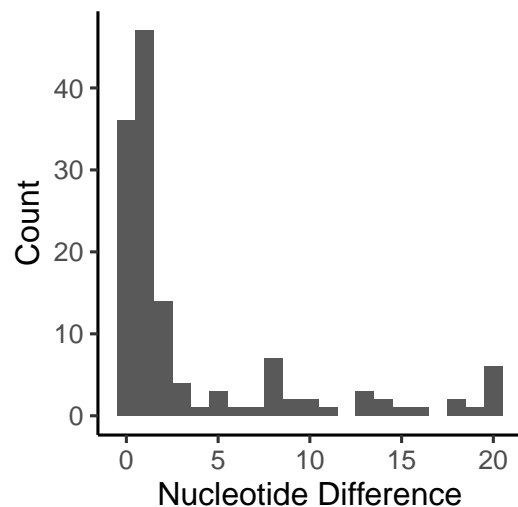
### IGHV3-47\*01

1 sequences assigned  
No exact matches.



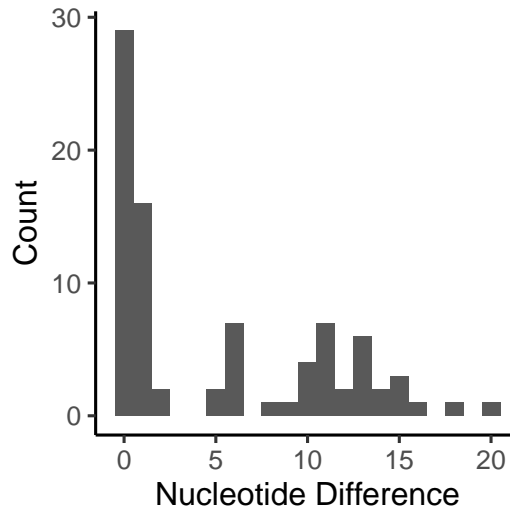
### IGHV3-33\*06

148 sequences assigned  
36 (24.3%) exact matches, in which:  
33 unique CDR3  
6 unique J



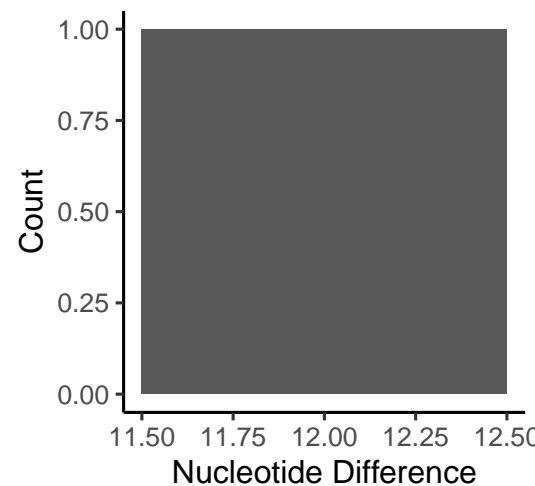
### IGHV3-43\*01

146 sequences assigned  
29 (19.9%) exact matches, in which:  
23 unique CDR3  
4 unique J



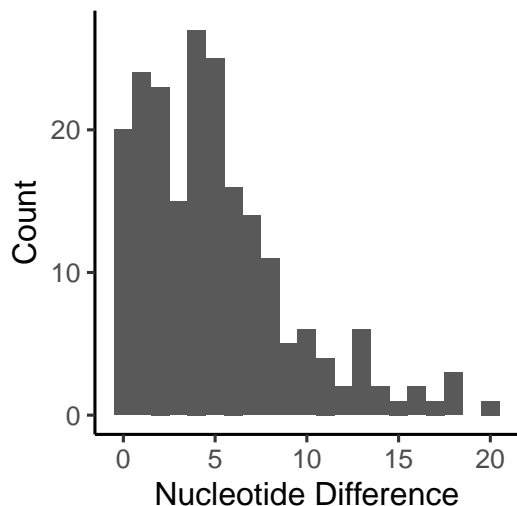
### IGHV3-47\*02

1 sequences assigned  
No exact matches.



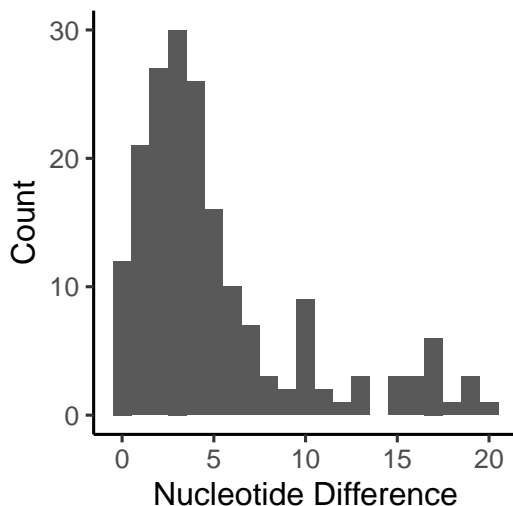
### IGHV3-48\*01

238 sequences assigned  
20 (8.4%) exact matches, in which:  
20 unique CDR3  
3 unique J



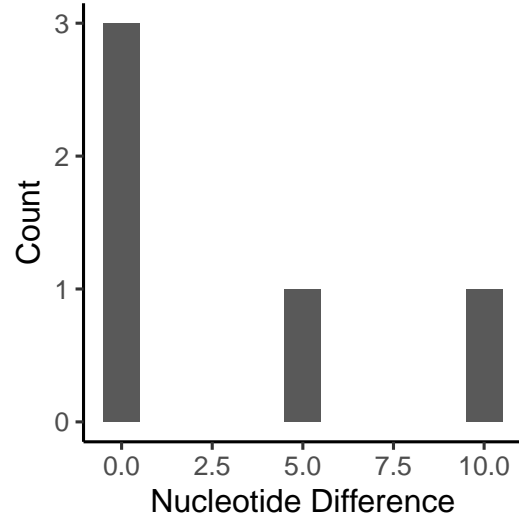
### IGHV3-48\*04

230 sequences assigned  
12 (5.2%) exact matches, in which:  
11 unique CDR3  
4 unique J



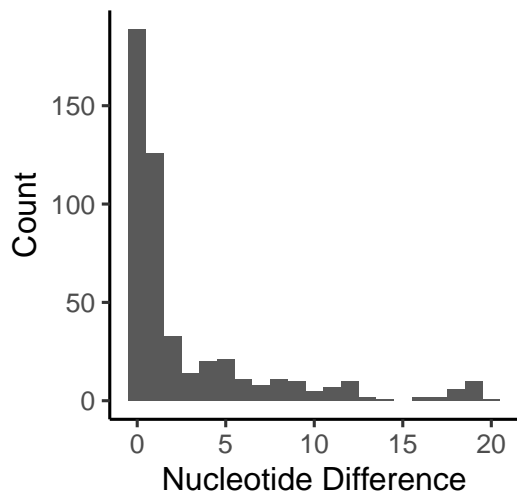
### IGHV3-52\*01\_03

5 sequences assigned  
3 (60%) exact matches, in which:  
3 unique CDR3  
2 unique J



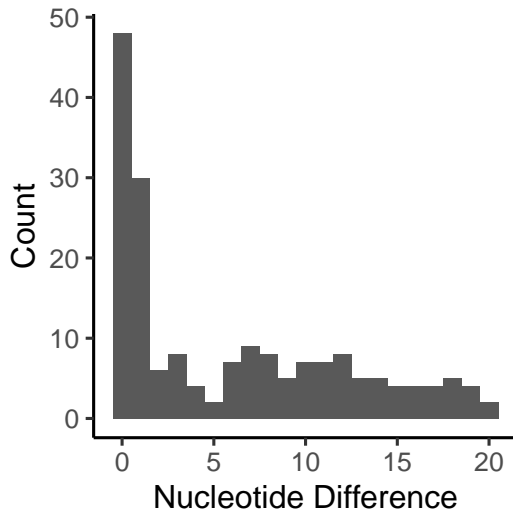
### IGHV3-48\*02

588 sequences assigned  
189 (32.1%) exact matches, in which:  
142 unique CDR3  
6 unique J



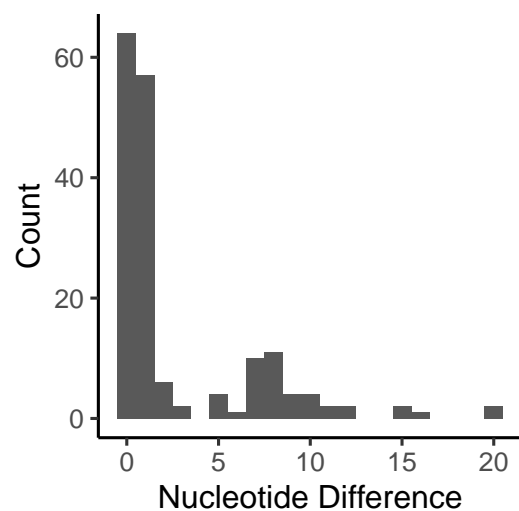
### IGHV3-49\*04

292 sequences assigned  
48 (16.4%) exact matches, in which:  
39 unique CDR3  
4 unique J



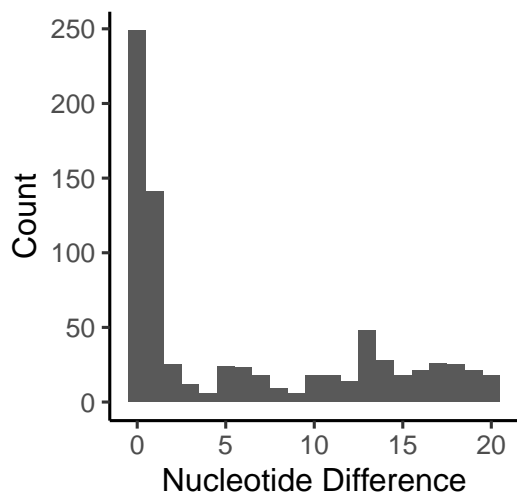
### IGHV3-53\*04

200 sequences assigned  
64 (32%) exact matches, in which:  
54 unique CDR3  
6 unique J



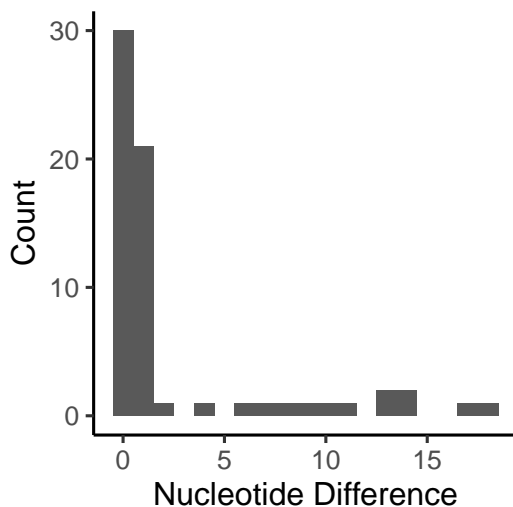
### IGHV3-48\*03

967 sequences assigned  
249 (25.7%) exact matches, in which:  
182 unique CDR3  
6 unique J



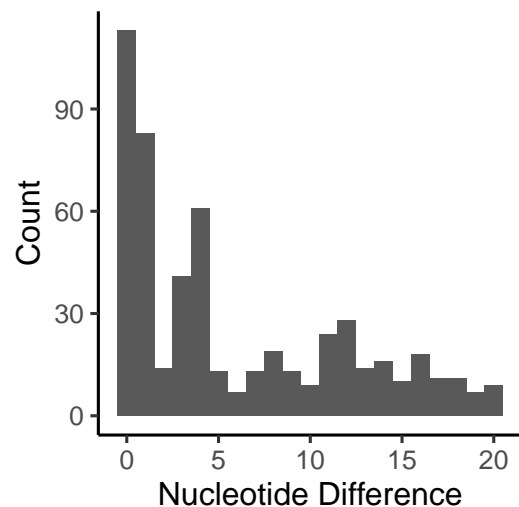
### IGHV3-49\*03\_05

142 sequences assigned  
30 (21.1%) exact matches, in which:  
24 unique CDR3  
4 unique J



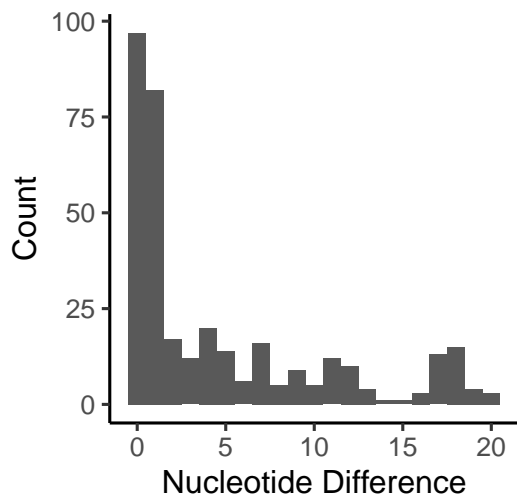
### IGHV3-53\*01\_02

685 sequences assigned  
113 (16.5%) exact matches, in which:  
99 unique CDR3  
5 unique J



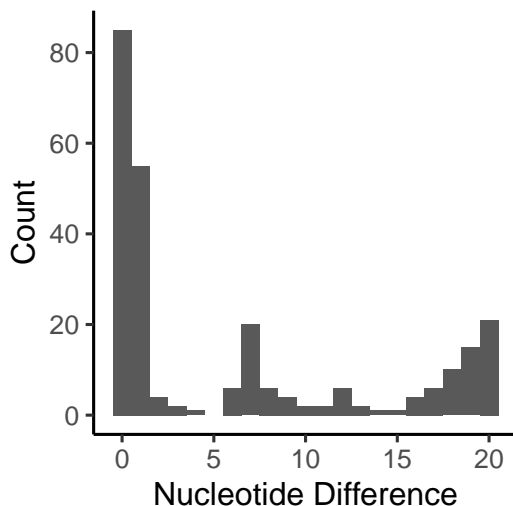
### IGHV3-64\*01

436 sequences assigned  
97 (22.2%) exact matches, in which:  
75 unique CDR3  
4 unique J



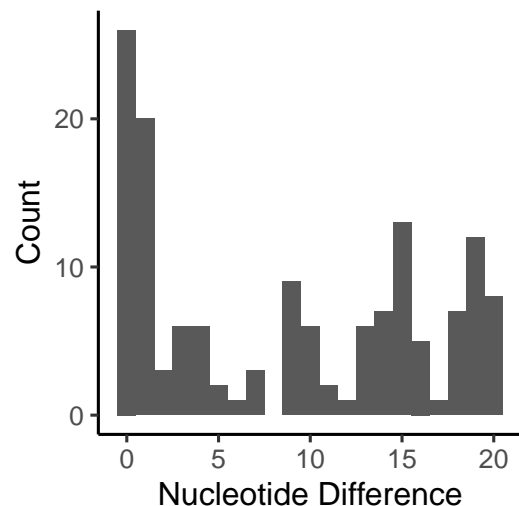
### IGHV3-66\*02

446 sequences assigned  
85 (19.1%) exact matches, in which:  
69 unique CDR3  
5 unique J



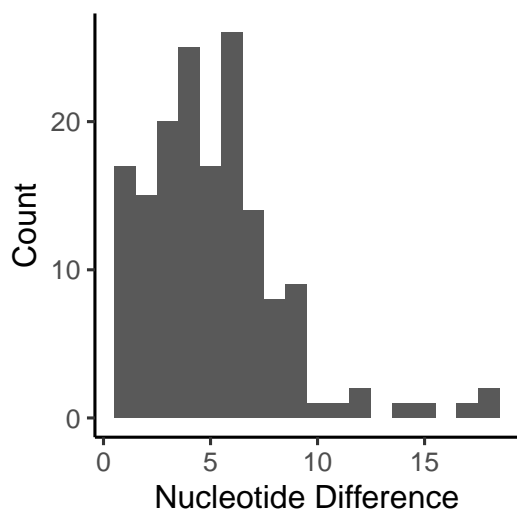
### IGHV3-72\*01

221 sequences assigned  
26 (11.8%) exact matches, in which:  
19 unique CDR3  
3 unique J



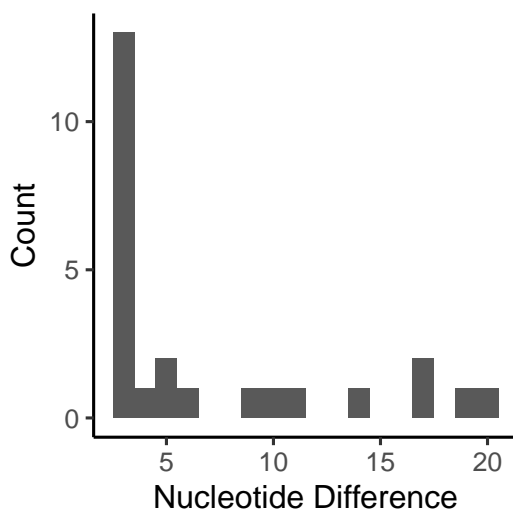
### IGHV3-64\*04

184 sequences assigned  
No exact matches.



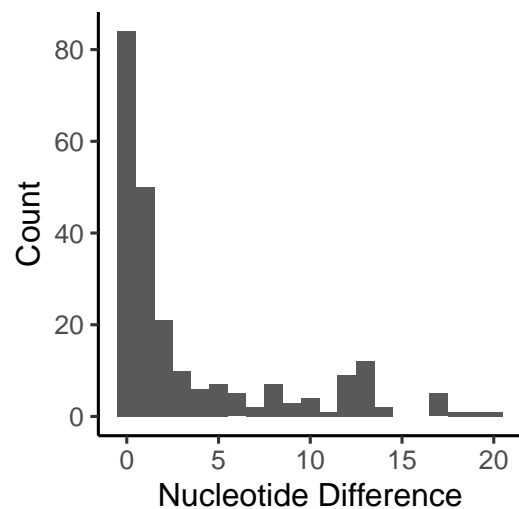
### IGHV3-69-1\*01

35 sequences assigned  
No exact matches.



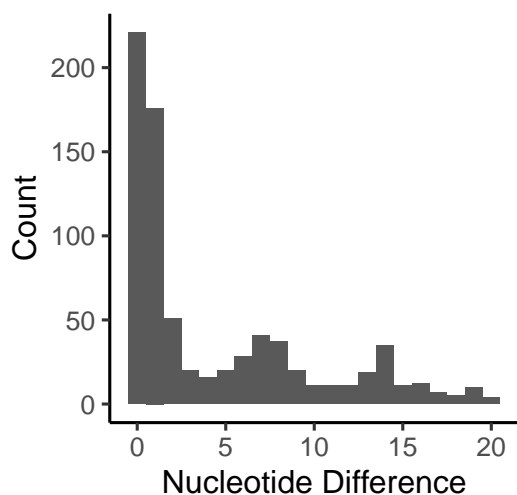
### IGHV3-73\*01\_02

355 sequences assigned  
84 (23.7%) exact matches, in which:  
63 unique CDR3  
4 unique J



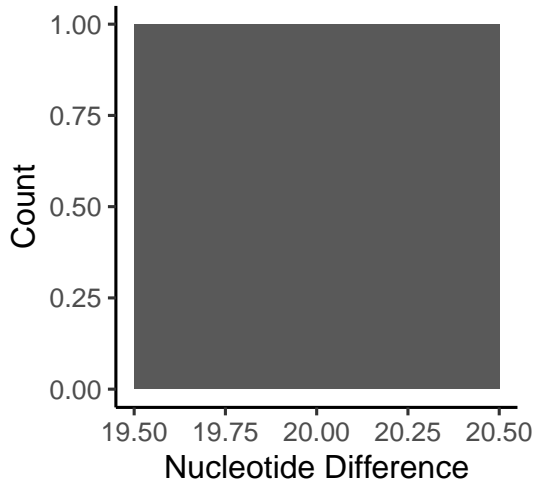
### IGHV3-66\*01

1028 sequences assigned  
221 (21.5%) exact matches, in which:  
183 unique CDR3  
6 unique J



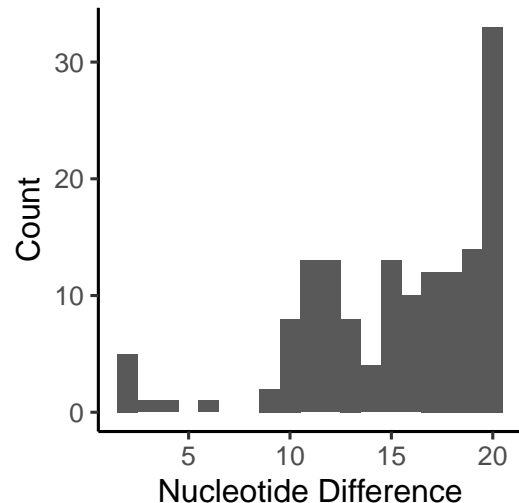
### IGHV3-69-1\*02

13 sequences assigned  
No exact matches.



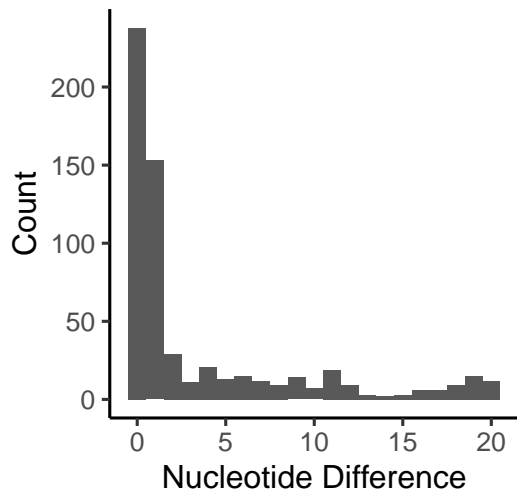
### IGHV3-74\*03

553 sequences assigned  
No exact matches.



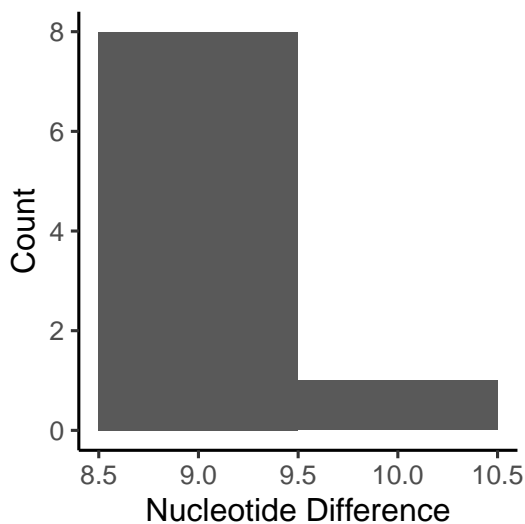
### IGHV3-74\*01\_02

773 sequences assigned  
238 (30.8%) exact matches, in which:  
197 unique CDR3  
6 unique J



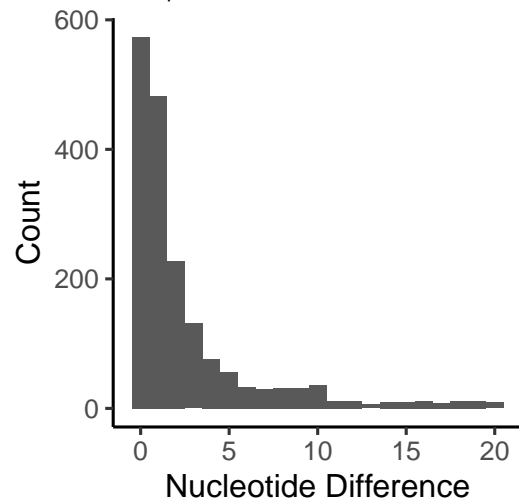
### IGHV3-64D\*08

20 sequences assigned  
No exact matches.



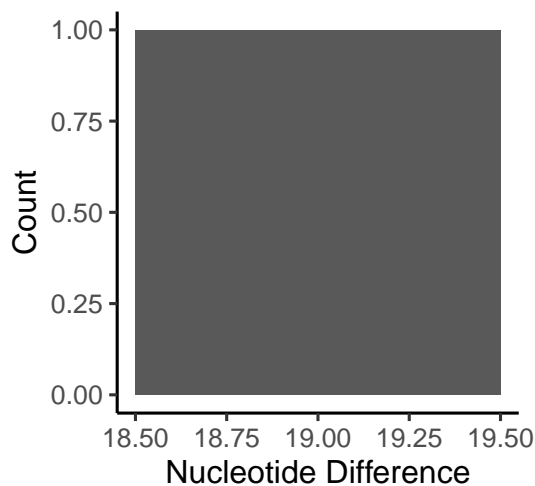
### IGHV4-4\*02\_03

2064 sequences assigned  
574 (27.8%) exact matches, in which:  
494 unique CDR3  
6 unique J



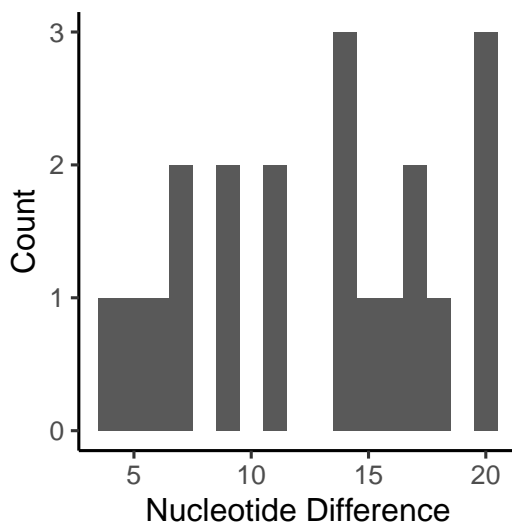
### IGHV3-43D\*04

28 sequences assigned  
No exact matches.



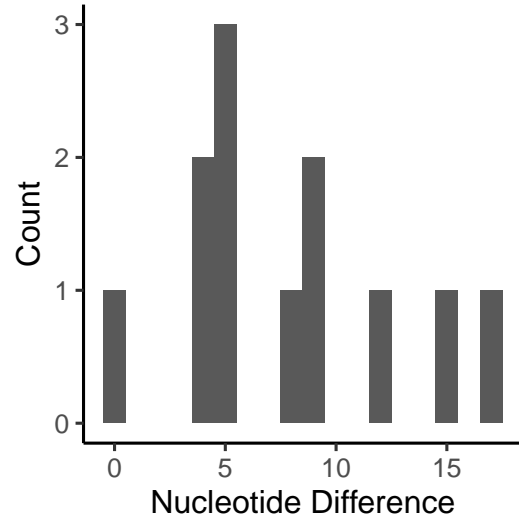
### IGHV3-NL1\*01

39 sequences assigned  
No exact matches.



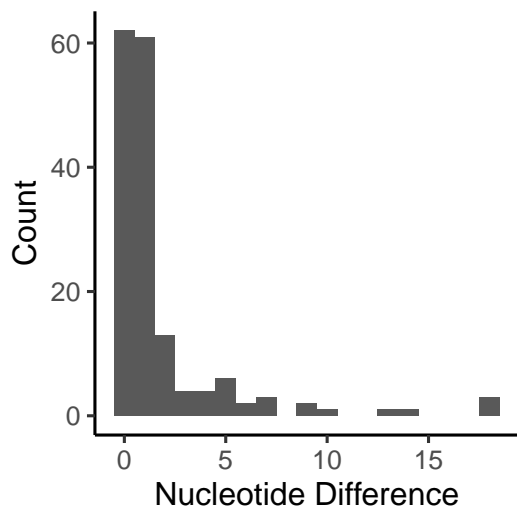
### IGHV4-28\*03

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



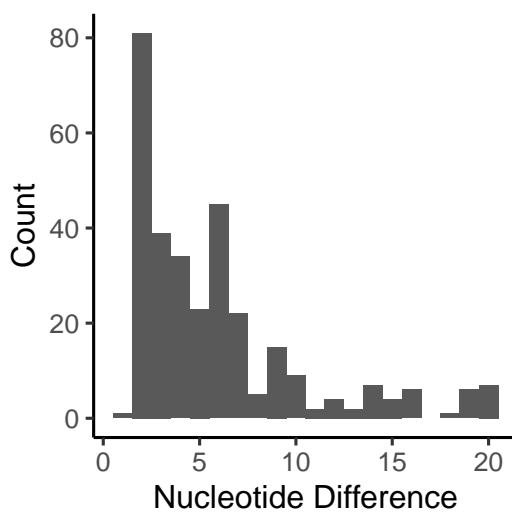
### IGHV3-64D\*06

167 sequences assigned  
62 (37.1%) exact matches, in which:  
42 unique CDR3  
5 unique J



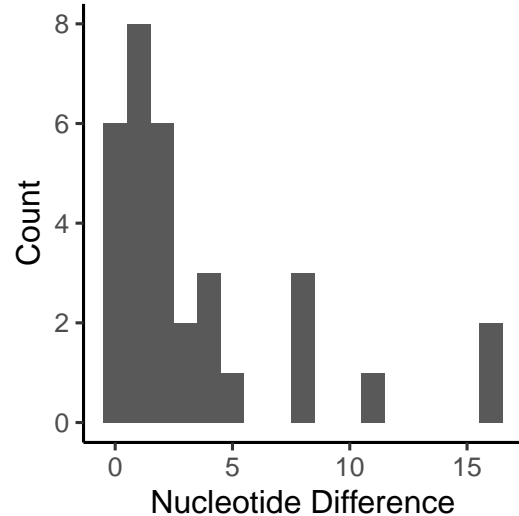
### IGHV4-4\*07

341 sequences assigned  
No exact matches.



### IGHV4-28\*02\_05

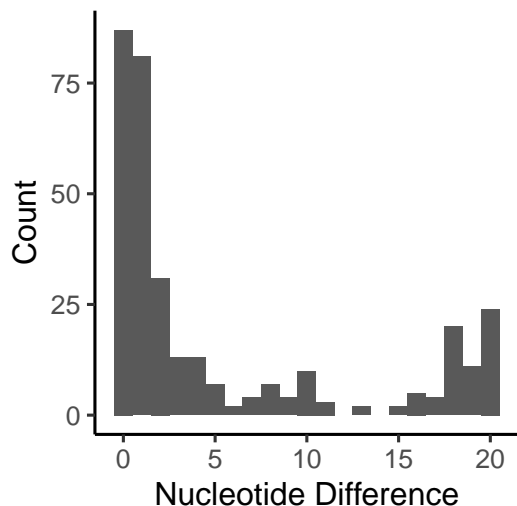
39 sequences assigned  
6 (15.4%) exact matches, in which:  
6 unique CDR3  
4 unique J





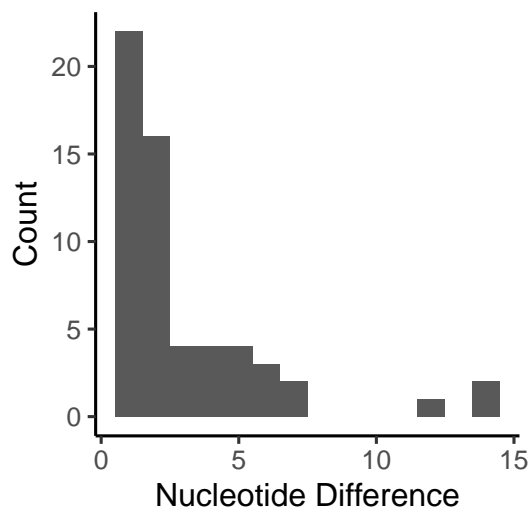
### IGHV4-30-4\*01

544 sequences assigned  
87 (16%) exact matches, in which:  
82 unique CDR3  
6 unique J



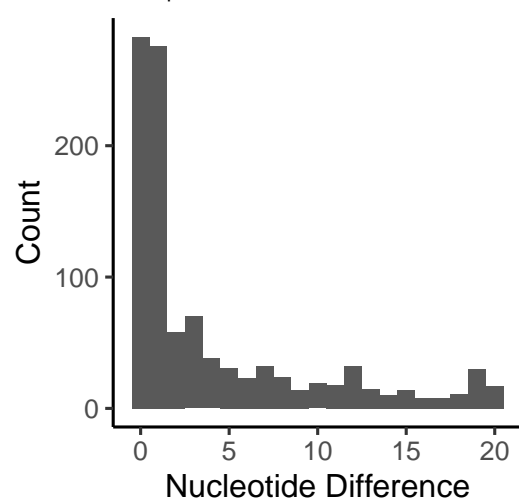
### IGHV4-30-2\*03

60 sequences assigned  
No exact matches.



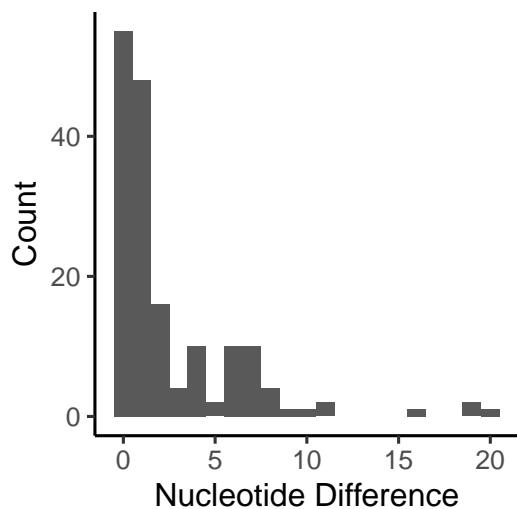
### IGHV4-31\*02

1298 sequences assigned  
283 (21.8%) exact matches, in which:  
241 unique CDR3  
6 unique J



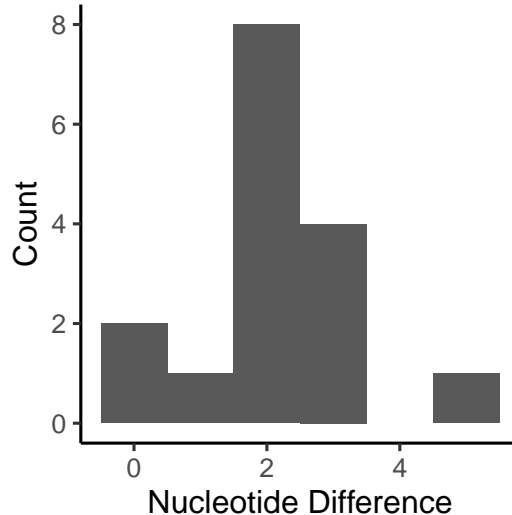
### IGHV4-30-2\*01

191 sequences assigned  
55 (28.8%) exact matches, in which:  
38 unique CDR3  
5 unique J



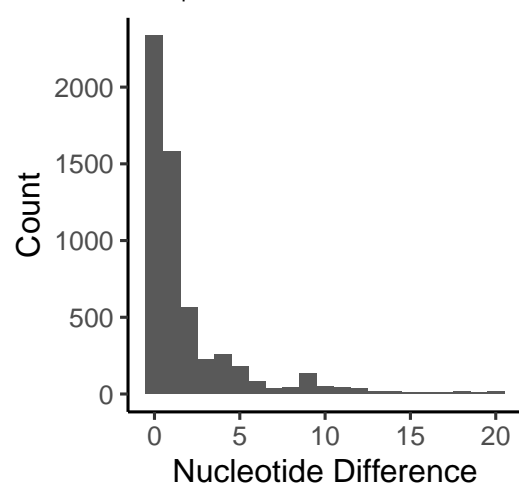
### IGHV4-30-2\*05

16 sequences assigned  
2 (12.5%) exact matches, in which:  
2 unique CDR3  
2 unique J



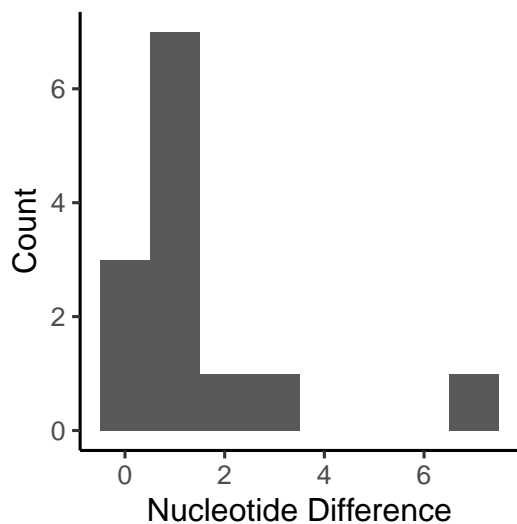
### IGHV4-34\*01\_02

5911 sequences assigned  
2335 (39.5%) exact matches, in which:  
2023 unique CDR3  
6 unique J



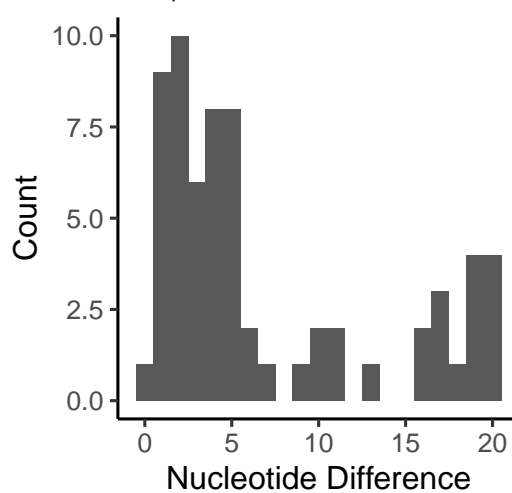
### IGHV4-30-2\*02

13 sequences assigned  
3 (23.1%) exact matches, in which:  
3 unique CDR3  
3 unique J



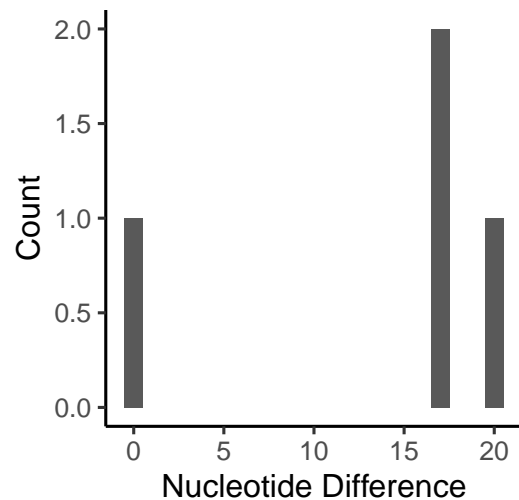
### IGHV4-30-4\*08

136 sequences assigned  
1 (0.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



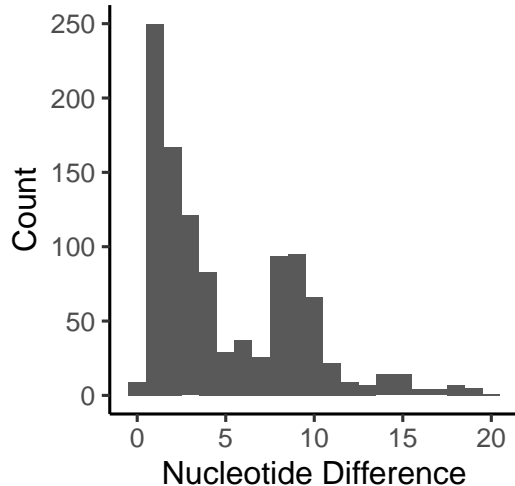
### IGHV4-38-2\*02

21 sequences assigned  
1 (4.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



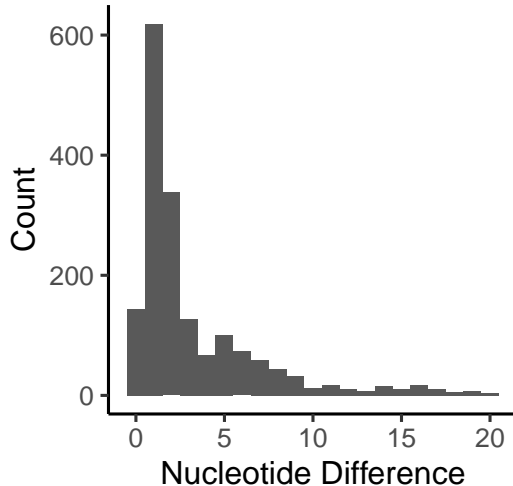
### IGHV4-39\*07

1131 sequences assigned  
9 (0.8%) exact matches, in which:  
9 unique CDR3  
2 unique J



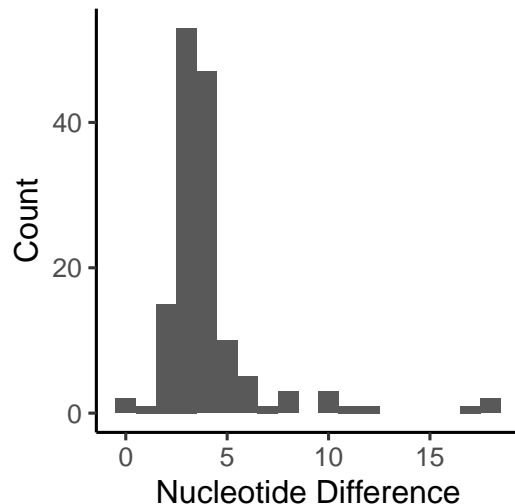
### IGHV4-59\*12

2112 sequences assigned  
144 (6.8%) exact matches, in which:  
144 unique CDR3  
6 unique J



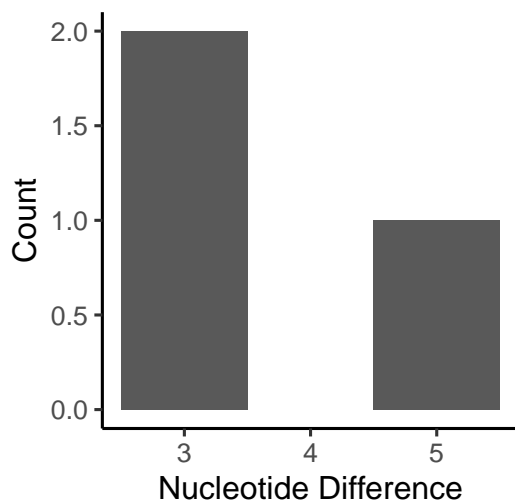
### IGHV4-61\*05

158 sequences assigned  
2 (1.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



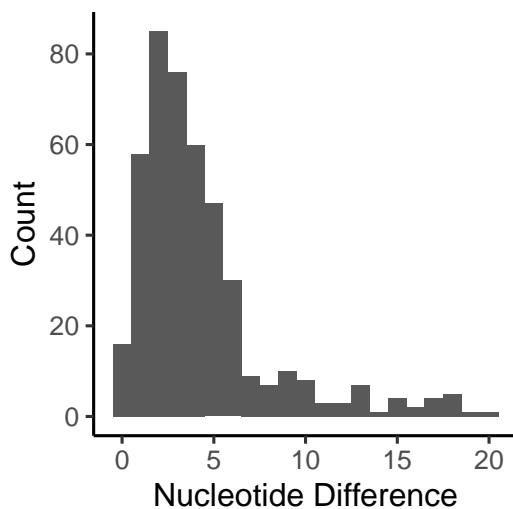
### IGHV4-55\*09

3 sequences assigned  
No exact matches.



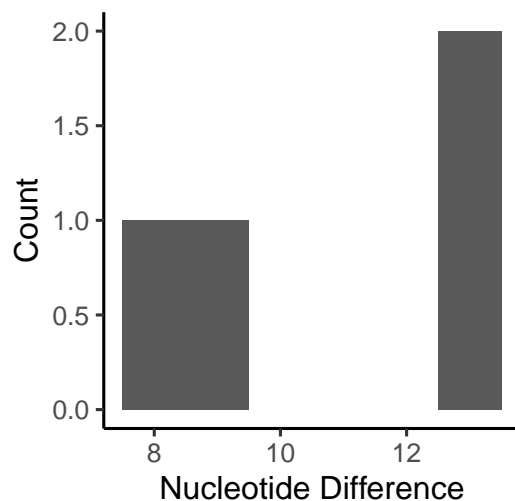
### IGHV4-61\*01

487 sequences assigned  
16 (3.3%) exact matches, in which:  
14 unique CDR3  
2 unique J



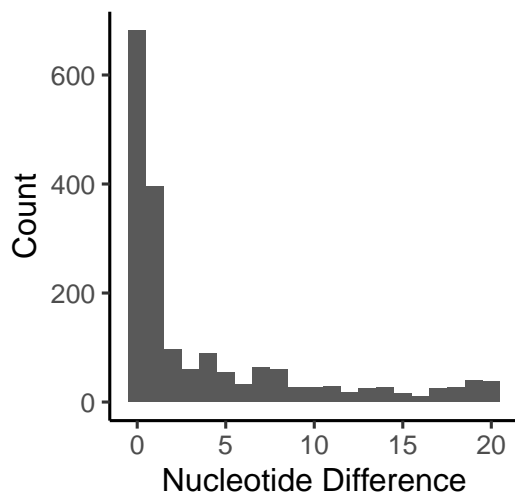
### IGHV1/OR15-3\*02

4 sequences assigned  
No exact matches.



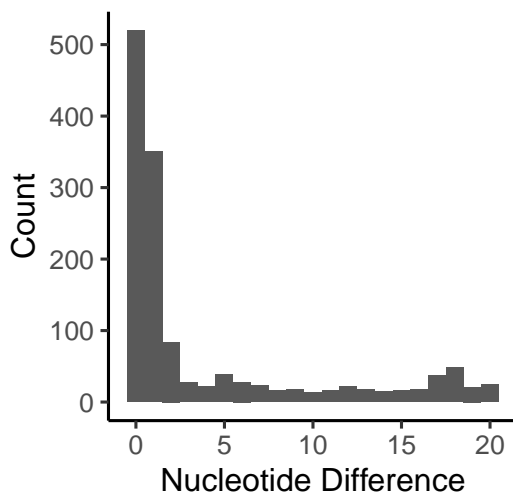
### IGHV4-59\*08

2699 sequences assigned  
682 (25.3%) exact matches, in which:  
627 unique CDR3  
6 unique J



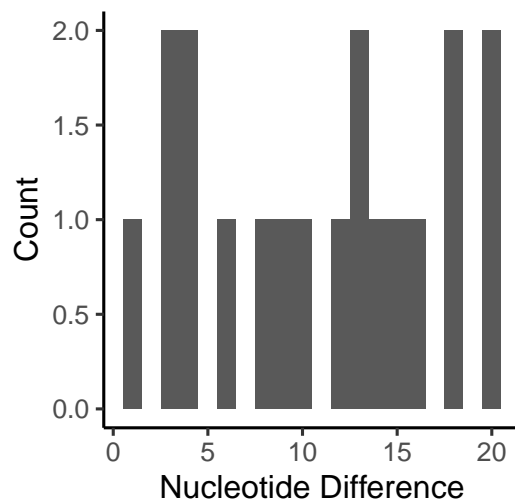
### IGHV4-61\*02

1705 sequences assigned  
520 (30.5%) exact matches, in which:  
465 unique CDR3  
6 unique J



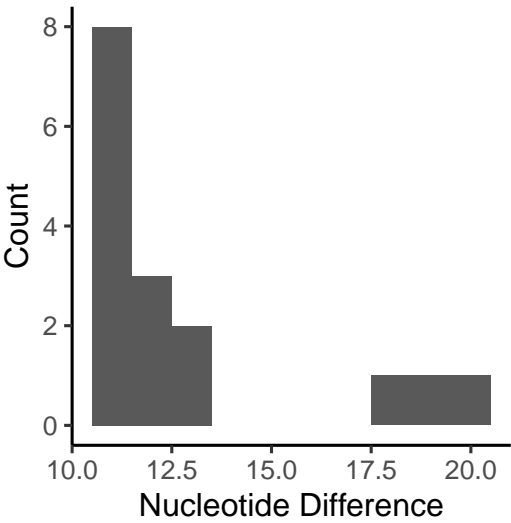
### IGHV4/OR15-8\*01

22 sequences assigned  
No exact matches.



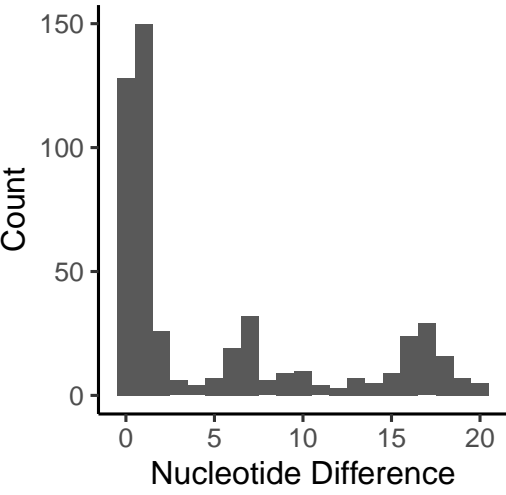
IGHV4/OR15-8\*02

62 sequences assigned  
No exact matches.



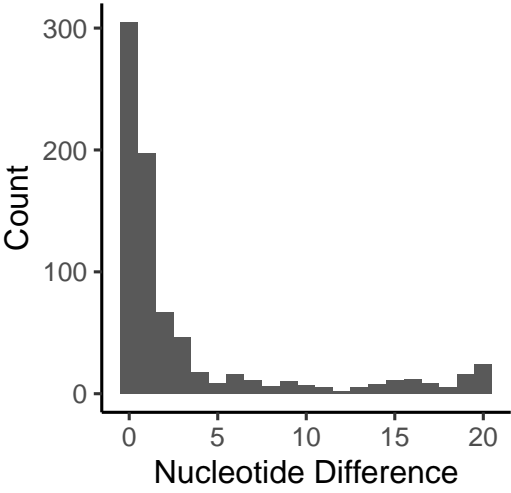
IGHV6-1\*01\_02

569 sequences assigned  
128 (22.5%) exact matches, in which:  
117 unique CDR3  
6 unique J



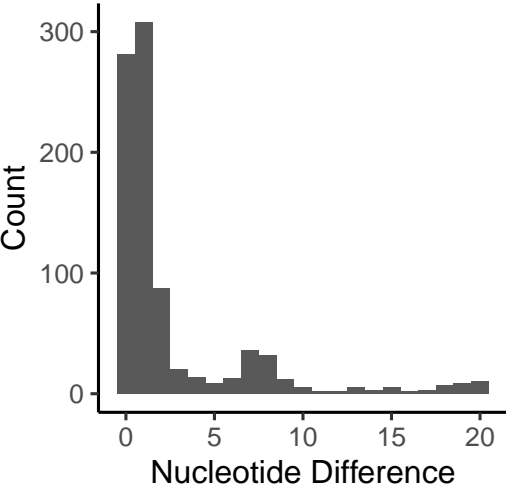
IGHV5-10-1\*01\_03

993 sequences assigned  
305 (30.7%) exact matches, in which:  
255 unique CDR3  
6 unique J



IGHV7-4-1\*02

1181 sequences assigned  
281 (23.8%) exact matches, in which:  
243 unique CDR3  
6 unique J



IGHV5-51\*07

89 sequences assigned  
40 (44.9%) exact matches, in which:  
37 unique CDR3  
5 unique J

