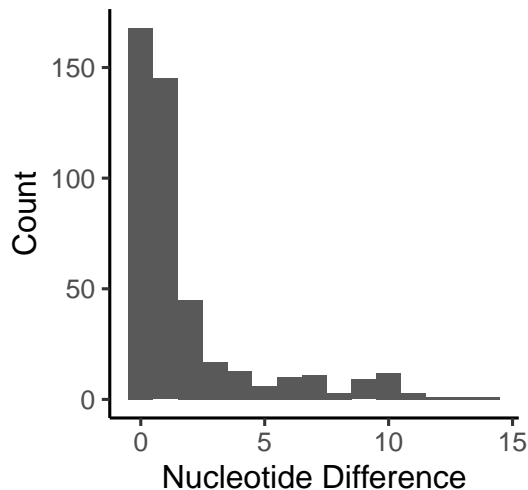


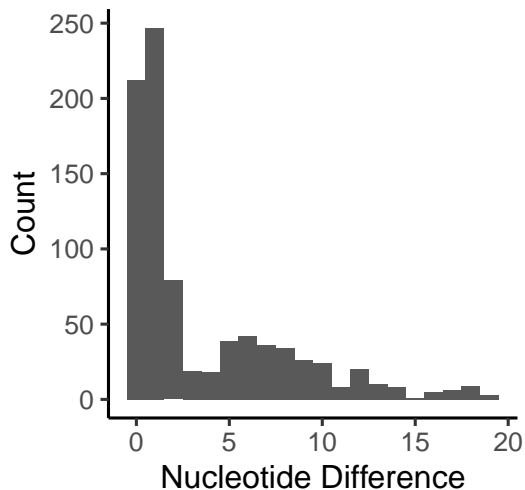
### IGHV1-2\*04

446 sequences assigned  
168 (37.7%) exact matches, in which:  
153 unique CDR3  
5 unique J



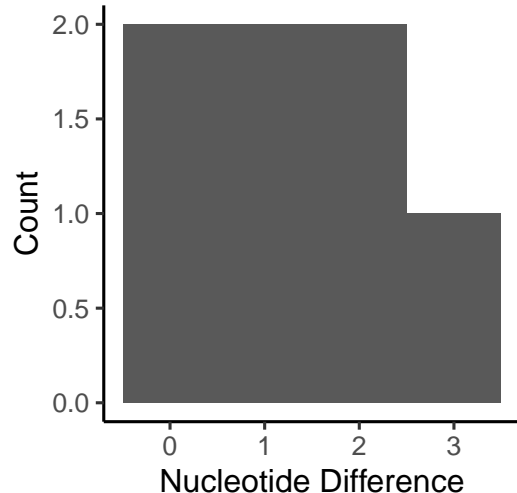
### IGHV1-8\*01

850 sequences assigned  
212 (24.9%) exact matches, in which:  
204 unique CDR3  
6 unique J



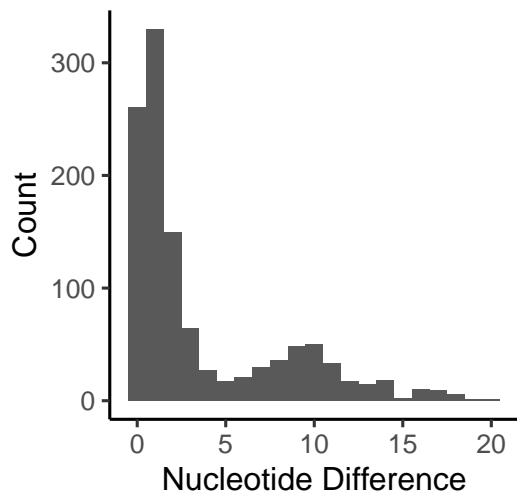
### IGHV1-38-4\*01

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



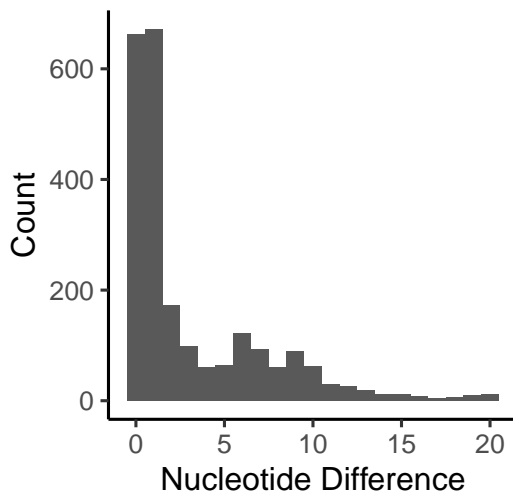
### IGHV1-2\*06

1169 sequences assigned  
261 (22.3%) exact matches, in which:  
240 unique CDR3  
6 unique J



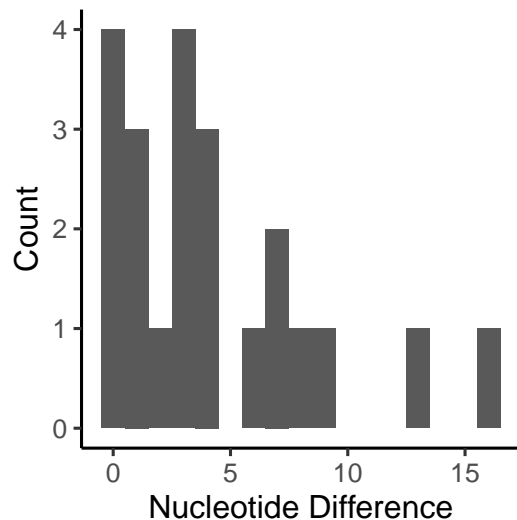
### IGHV1-18\*01

2347 sequences assigned  
663 (28.2%) exact matches, in which:  
595 unique CDR3  
6 unique J



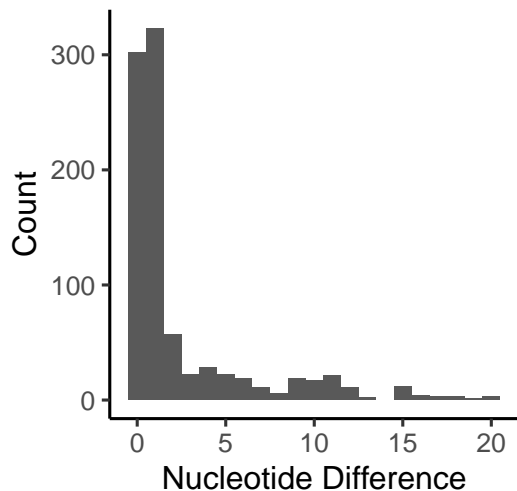
### IGHV1-45\*02

22 sequences assigned  
4 (18.2%) exact matches, in which:  
3 unique CDR3  
1 unique J



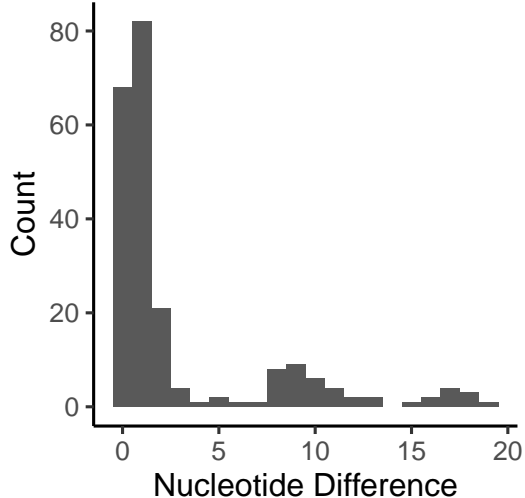
### IGHV1-3\*01\_05

898 sequences assigned  
302 (33.6%) exact matches, in which:  
268 unique CDR3  
6 unique J



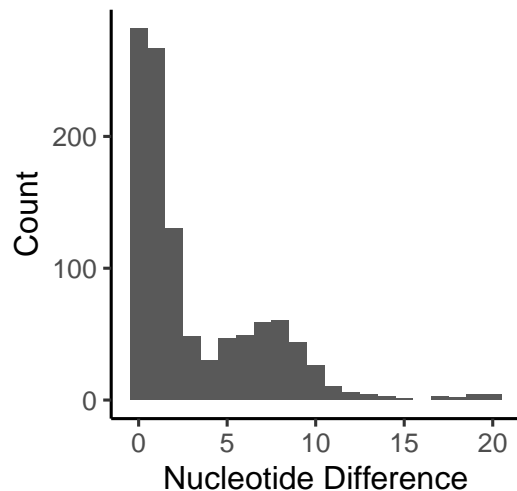
### IGHV1-24\*01

223 sequences assigned  
68 (30.5%) exact matches, in which:  
67 unique CDR3  
4 unique J



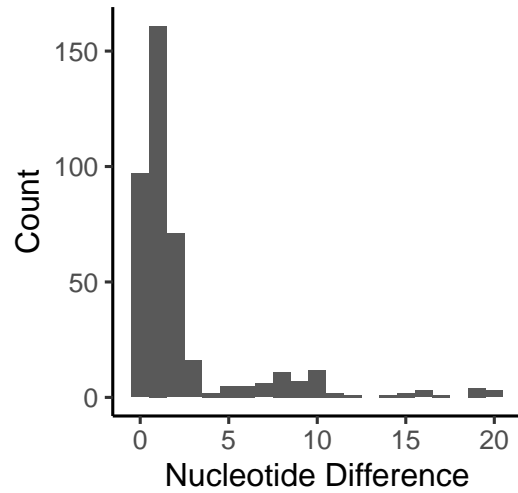
### IGHV1-46\*01

1086 sequences assigned  
282 (26%) exact matches, in which:  
260 unique CDR3  
6 unique J



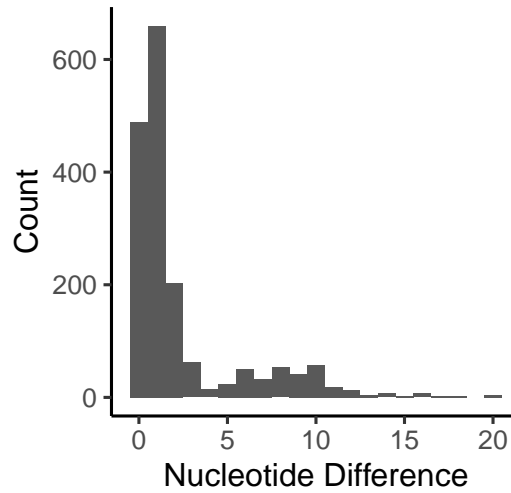
### IGHV1-46\*03

411 sequences assigned  
97 (23.6%) exact matches, in which:  
85 unique CDR3  
4 unique J



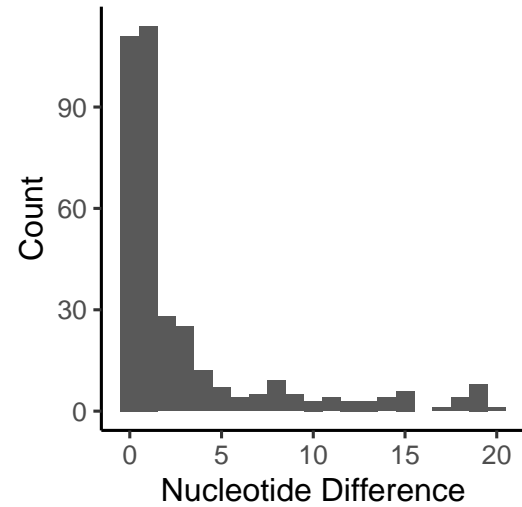
### IGHV1-69\*01\_12\_13

1777 sequences assigned  
489 (27.5%) exact matches, in which:  
457 unique CDR3  
6 unique J



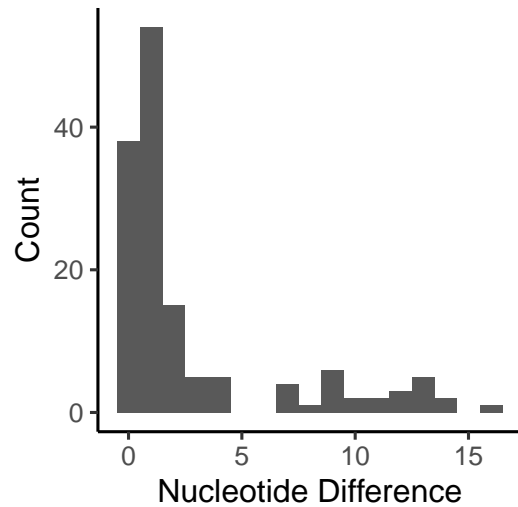
### IGHV2-5\*02

362 sequences assigned  
111 (30.7%) exact matches, in which:  
92 unique CDR3  
6 unique J



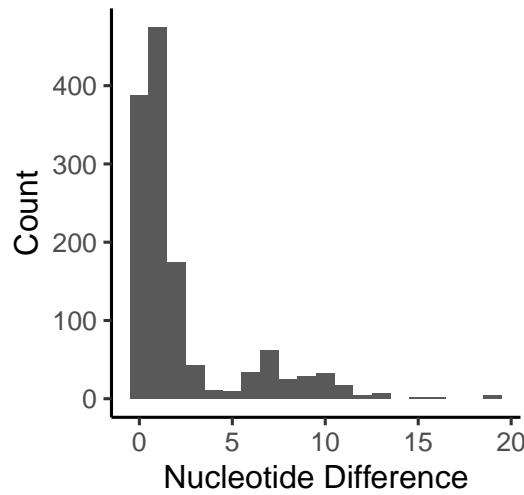
### IGHV1-58\*02

144 sequences assigned  
38 (26.4%) exact matches, in which:  
36 unique CDR3  
4 unique J



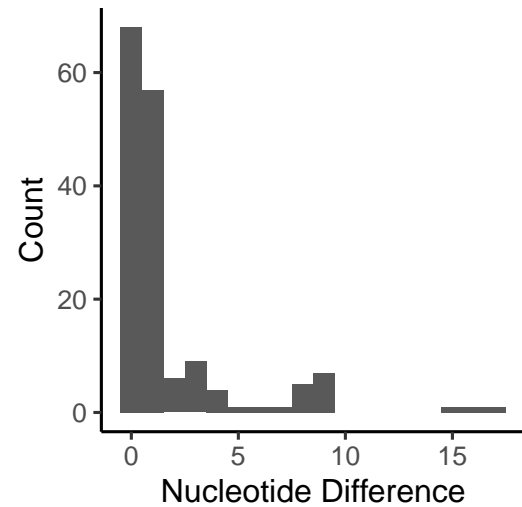
### IGHV1-69\*10

1328 sequences assigned  
388 (29.2%) exact matches, in which:  
368 unique CDR3  
6 unique J



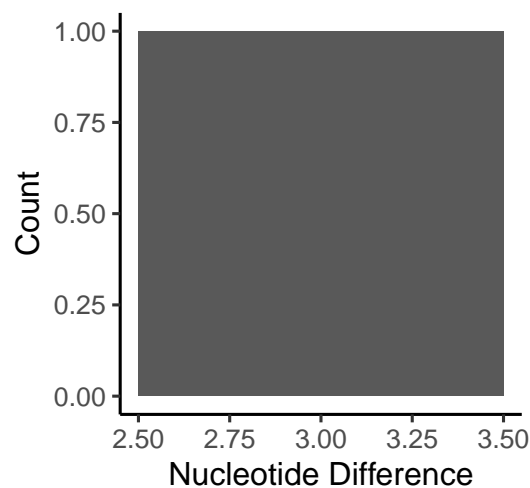
### IGHV2-26\*01

164 sequences assigned  
68 (41.5%) exact matches, in which:  
54 unique CDR3  
4 unique J



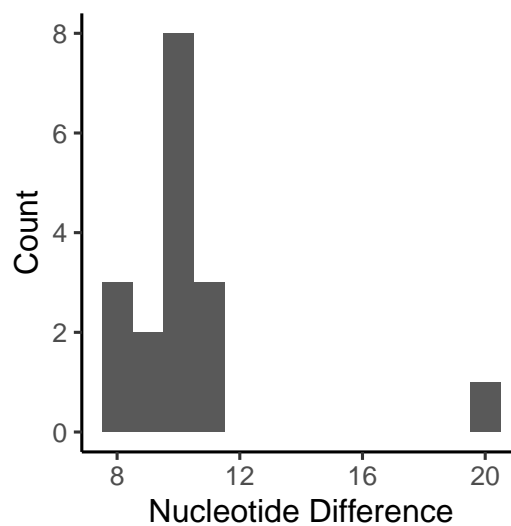
### IGHV1-68\*01

1 sequences assigned  
No exact matches.



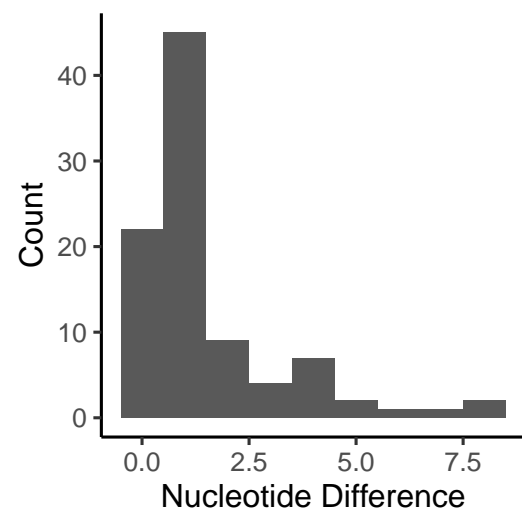
### IGHV1-NL1\*01

17 sequences assigned  
No exact matches.



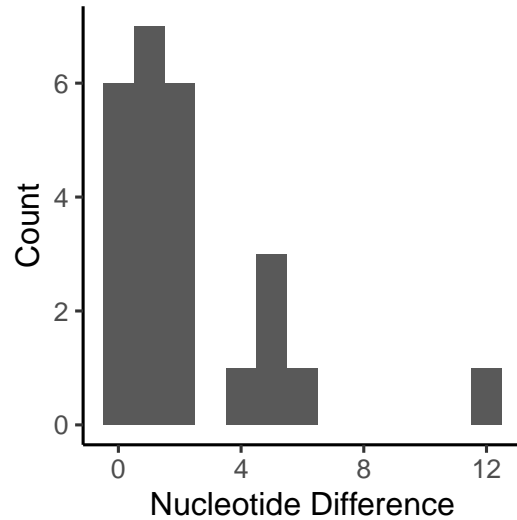
### IGHV2-70\*01

93 sequences assigned  
22 (23.7%) exact matches, in which:  
19 unique CDR3  
3 unique J



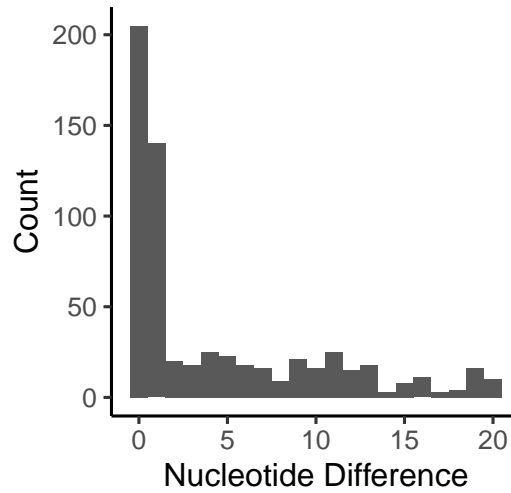
### IGHV2-70\*12

25 sequences assigned  
6 (24%) exact matches, in which:  
6 unique CDR3  
3 unique J



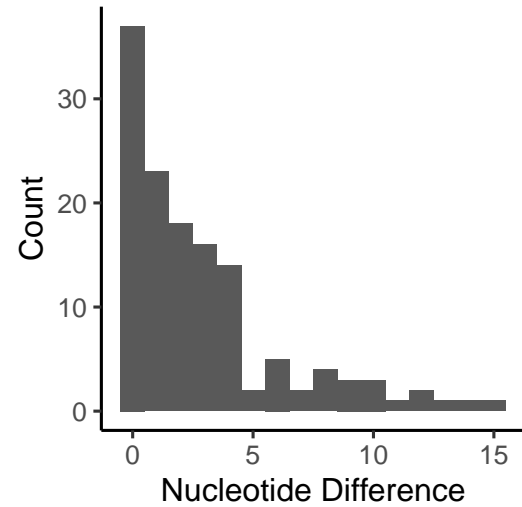
### IGHV3-7\*03

699 sequences assigned  
205 (29.3%) exact matches, in which:  
148 unique CDR3  
5 unique J



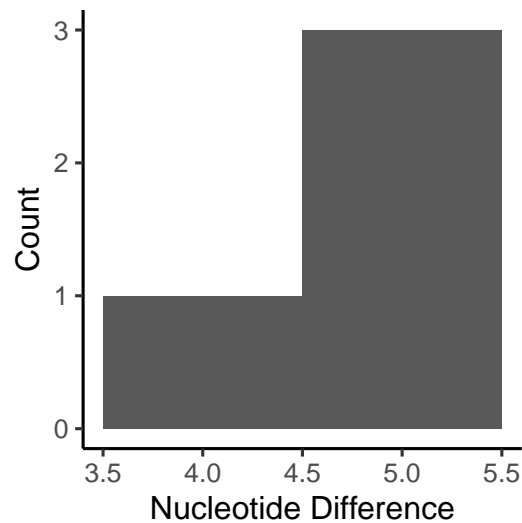
### IGHV3-11\*04

134 sequences assigned  
37 (27.6%) exact matches, in which:  
36 unique CDR3  
5 unique J



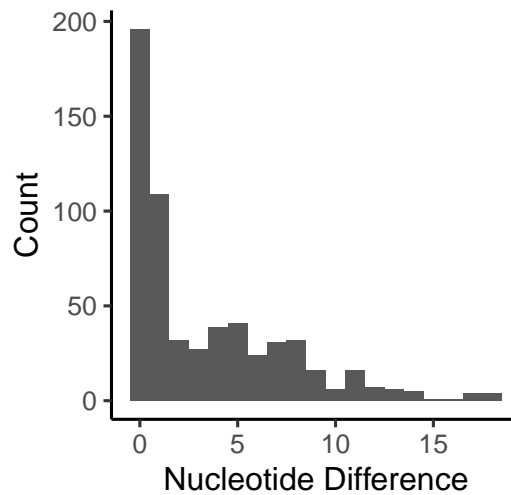
### IGHV2-70D\*04

4 sequences assigned  
No exact matches.



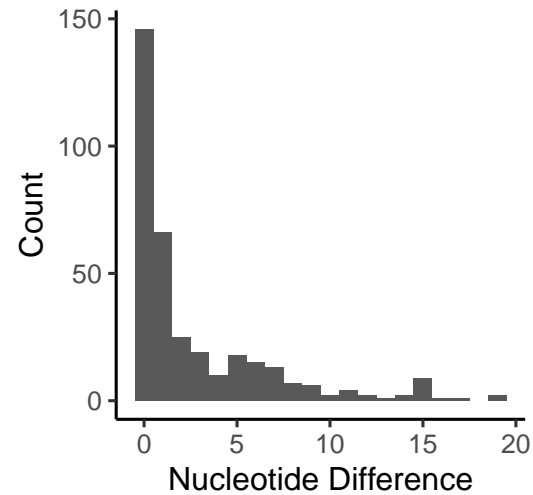
### IGHV3-9\*01

606 sequences assigned  
196 (32.3%) exact matches, in which:  
129 unique CDR3  
4 unique J



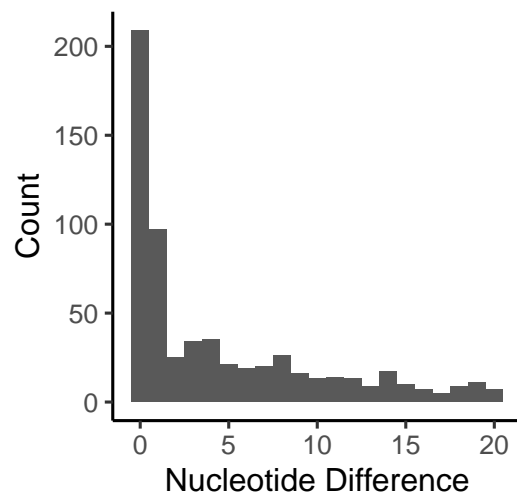
### IGHV3-11\*06

353 sequences assigned  
146 (41.4%) exact matches, in which:  
104 unique CDR3  
5 unique J



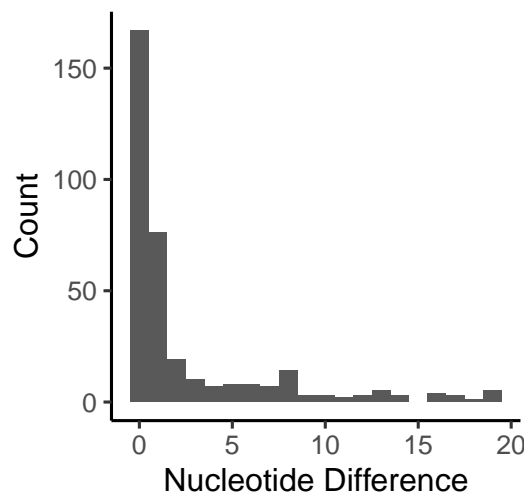
### IGHV3-7\*01

657 sequences assigned  
209 (31.8%) exact matches, in which:  
167 unique CDR3  
5 unique J



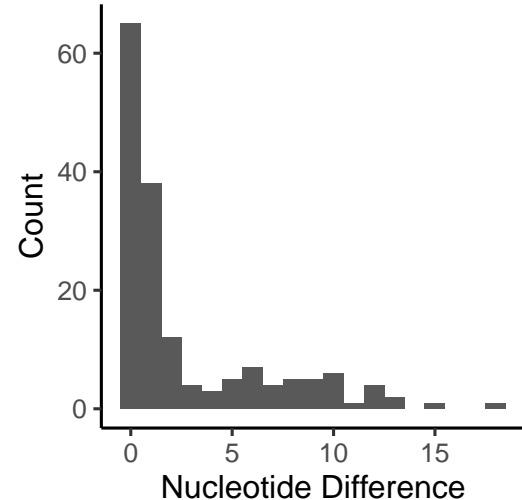
### IGHV3-11\*01

355 sequences assigned  
167 (47%) exact matches, in which:  
125 unique CDR3  
6 unique J



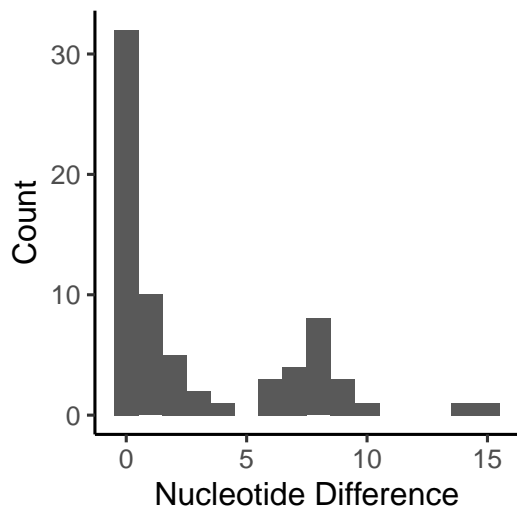
### IGHV3-13\*01

163 sequences assigned  
65 (39.9%) exact matches, in which:  
50 unique CDR3  
5 unique J



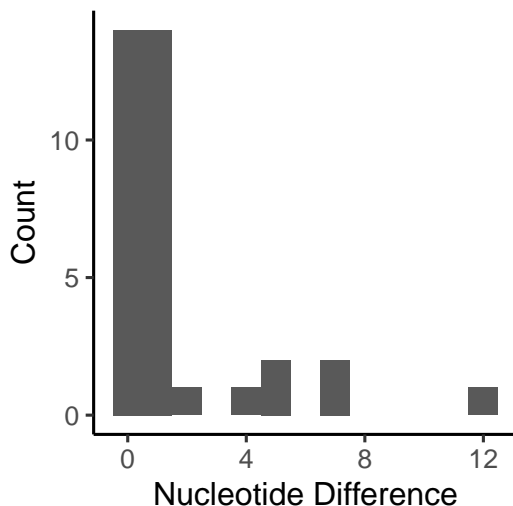
### IGHV3-13\*05

71 sequences assigned  
32 (45.1%) exact matches, in which:  
30 unique CDR3  
6 unique J



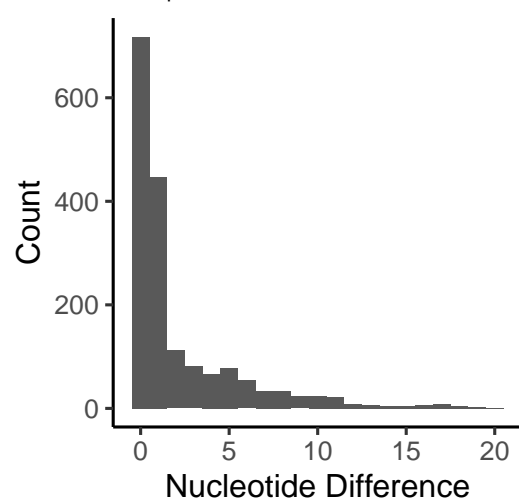
### IGHV3-20\*01\_02

35 sequences assigned  
14 (40%) exact matches, in which:  
11 unique CDR3  
4 unique J



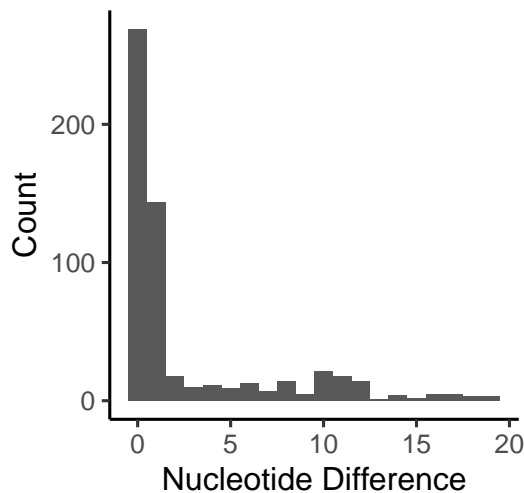
### IGHV3-21\*01\_02

1750 sequences assigned  
718 (41%) exact matches, in which:  
470 unique CDR3  
6 unique J



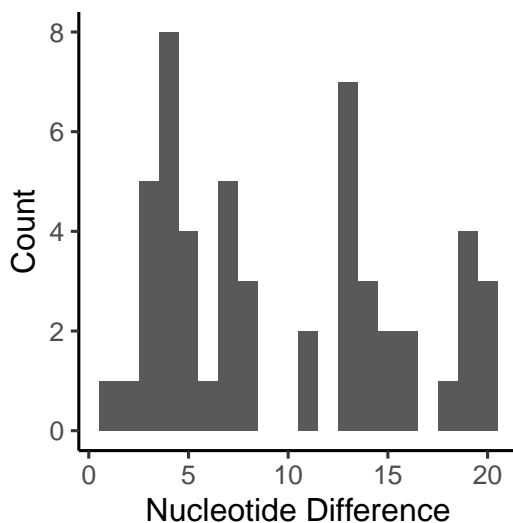
### IGHV3-15\*01\_02

616 sequences assigned  
269 (43.7%) exact matches, in which:  
168 unique CDR3  
6 unique J



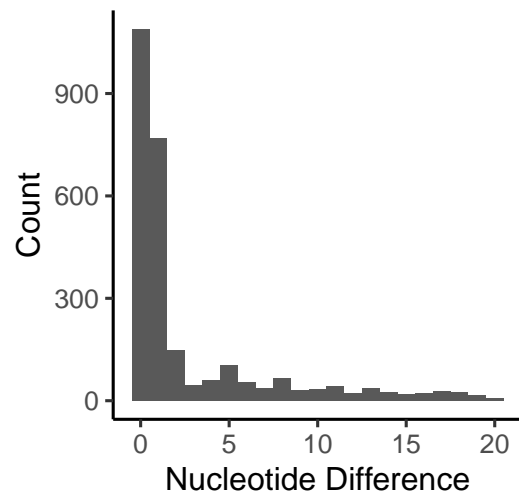
### IGHV3-20\*03\_04

55 sequences assigned  
No exact matches.



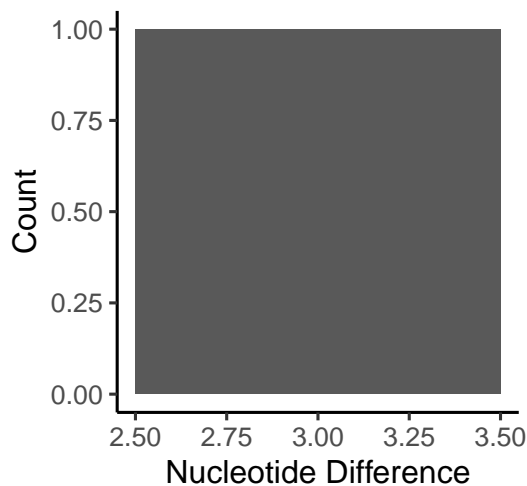
### IGHV3-23\*01\_04

2723 sequences assigned  
1089 (40%) exact matches, in which:  
673 unique CDR3  
6 unique J



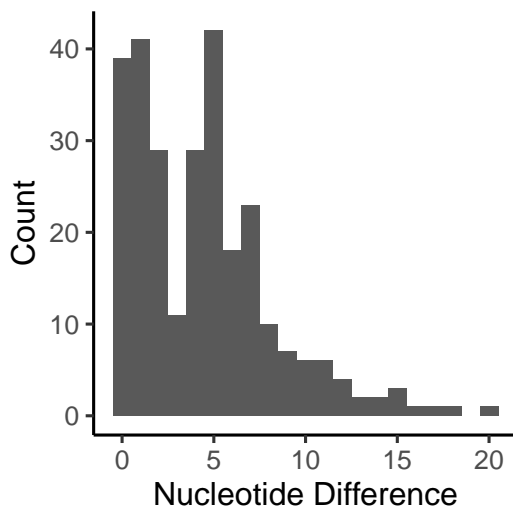
### IGHV3-19\*01

1 sequences assigned  
No exact matches.



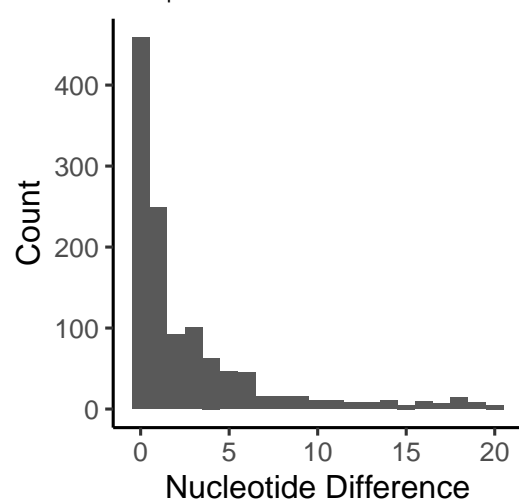
### IGHV3-21\*04

276 sequences assigned  
39 (14.1%) exact matches, in which:  
39 unique CDR3  
5 unique J



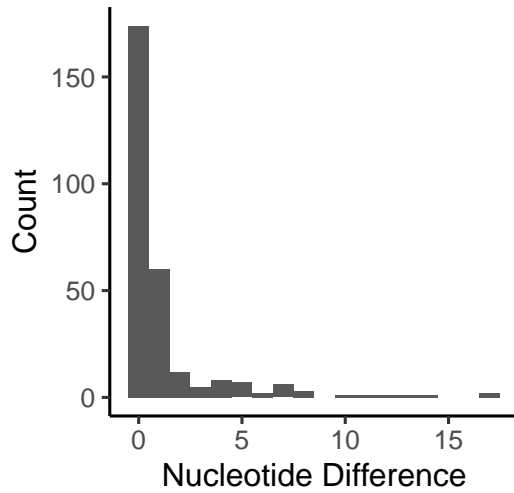
### IGHV3-30-3\*01

1224 sequences assigned  
459 (37.5%) exact matches, in which:  
319 unique CDR3  
6 unique J



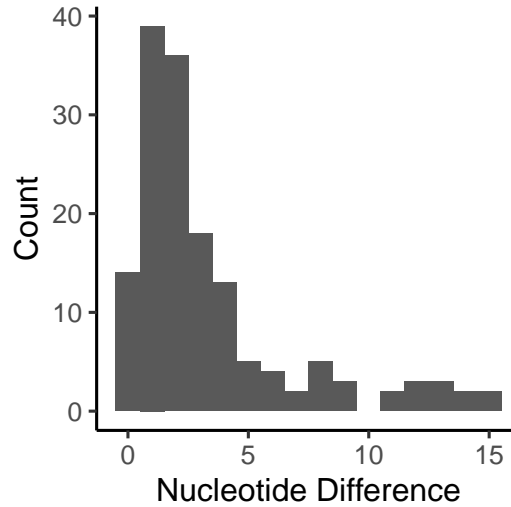
### IGHV3–30\*03

289 sequences assigned  
174 (60.2%) exact matches, in which:  
165 unique CDR3  
6 unique J



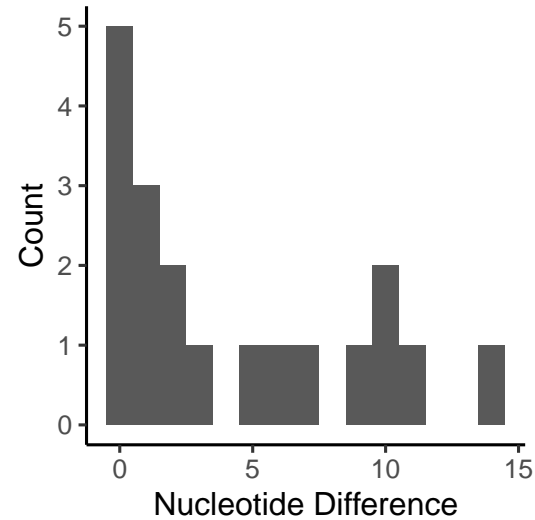
### IGHV3–33\*06

151 sequences assigned  
14 (9.3%) exact matches, in which:  
13 unique CDR3  
3 unique J



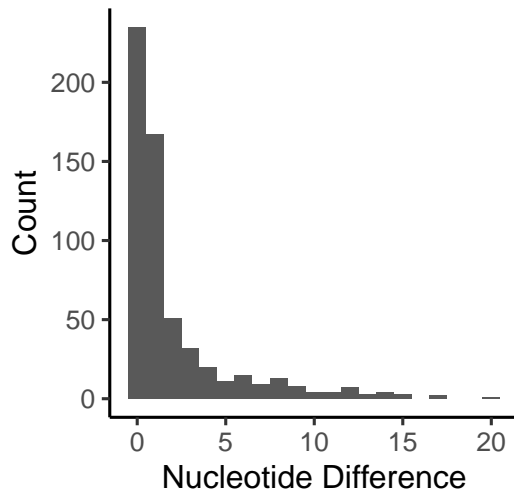
### IGHV3–38–3\*01

19 sequences assigned  
5 (26.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



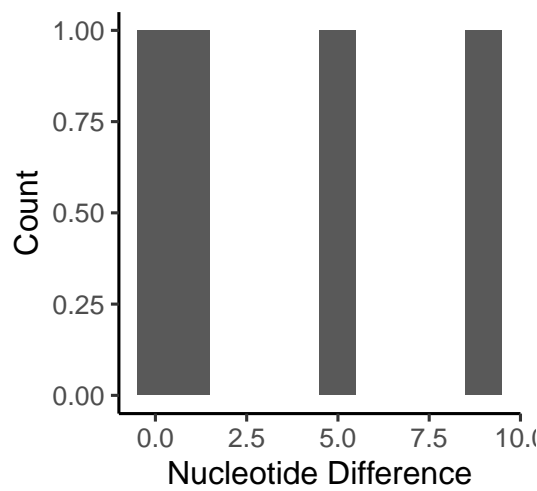
### IGHV3–33\*01

590 sequences assigned  
235 (39.8%) exact matches, in which:  
173 unique CDR3  
6 unique J



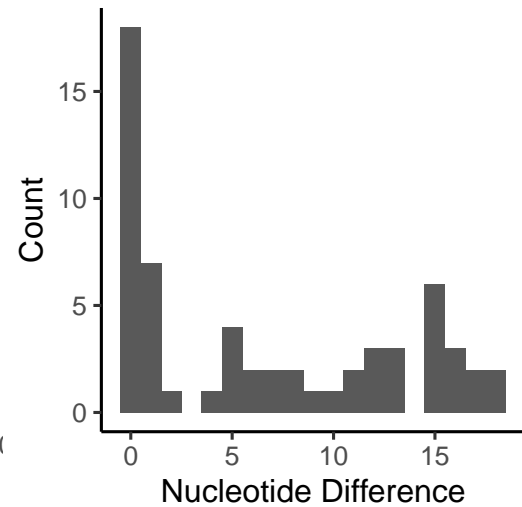
### IGHV3–35\*01

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



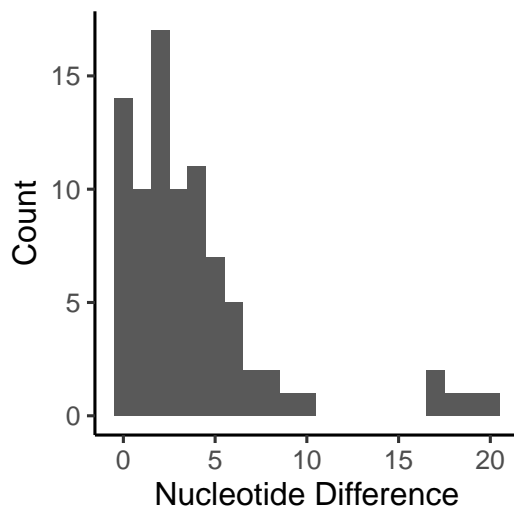
### IGHV3–43\*01

63 sequences assigned  
18 (28.6%) exact matches, in which:  
12 unique CDR3  
3 unique J



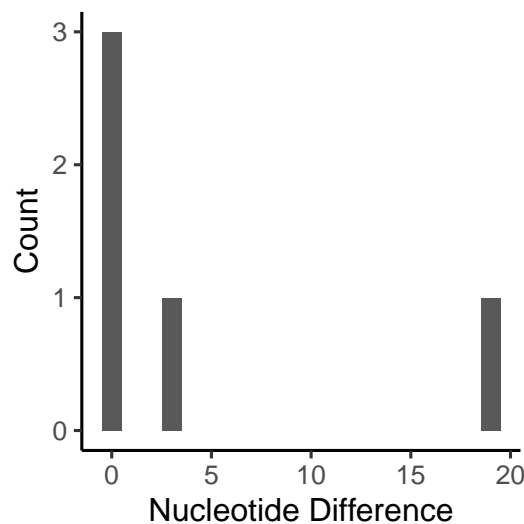
### IGHV3–33\*05

85 sequences assigned  
14 (16.5%) exact matches, in which:  
13 unique CDR3  
2 unique J



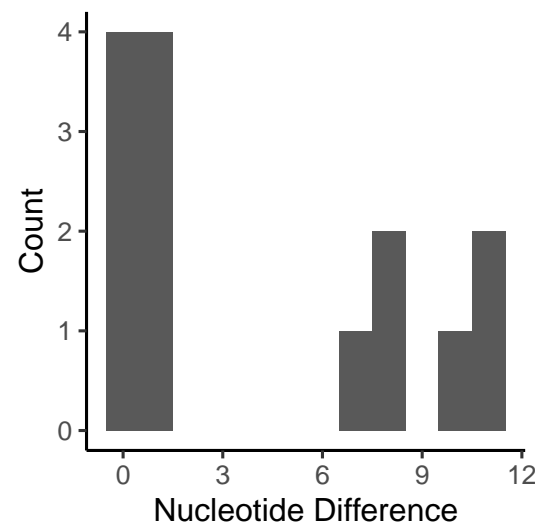
### IGHV3–35\*02

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



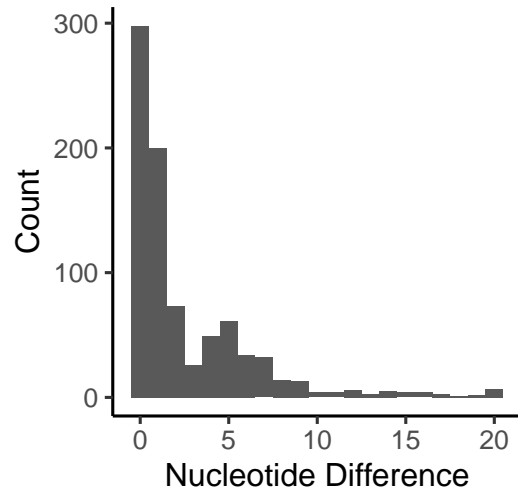
### IGHV3–47\*02

14 sequences assigned  
4 (28.6%) exact matches, in which:  
3 unique CDR3  
2 unique J



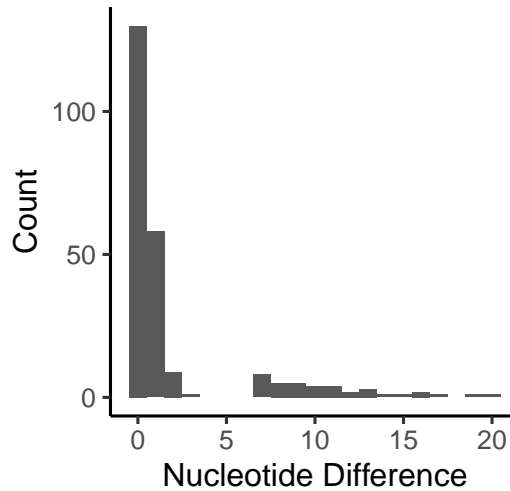
### IGHV3-48\*01

863 sequences assigned  
298 (34.5%) exact matches, in which:  
219 unique CDR3  
5 unique J



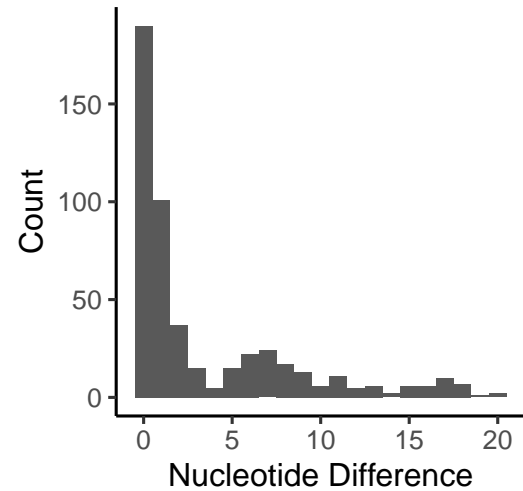
### IGHV3-49\*03\_05

245 sequences assigned  
130 (53.1%) exact matches, in which:  
86 unique CDR3  
6 unique J



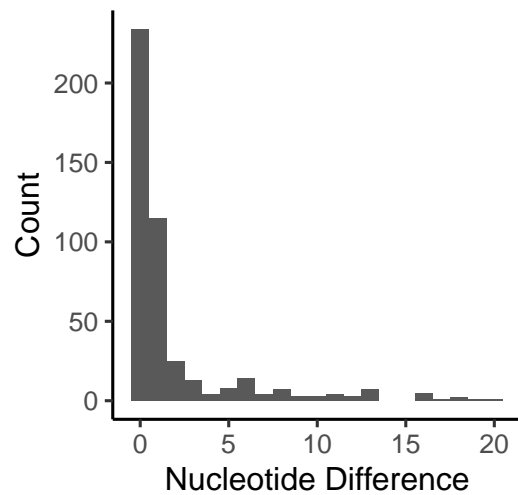
### IGHV3-53\*01\_02

521 sequences assigned  
190 (36.5%) exact matches, in which:  
141 unique CDR3  
6 unique J



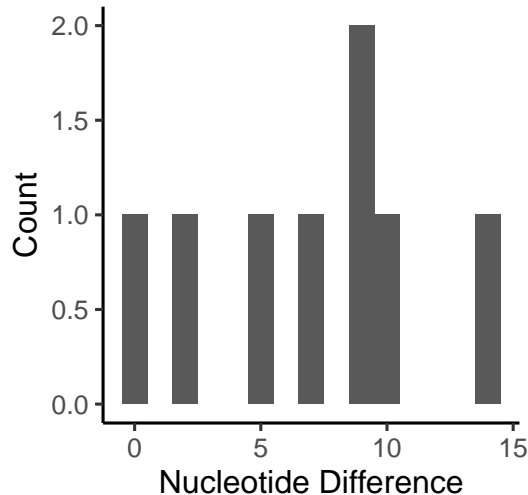
### IGHV3-48\*02

455 sequences assigned  
234 (51.4%) exact matches, in which:  
157 unique CDR3  
5 unique J



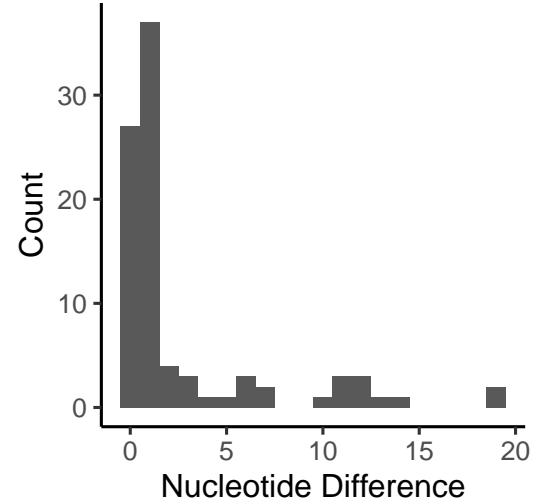
### IGHV3-52\*02

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



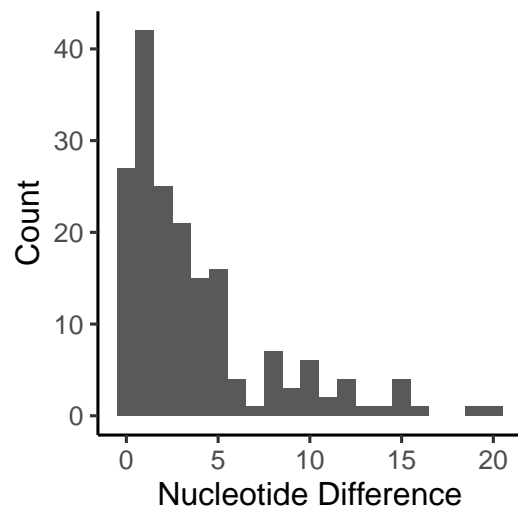
### IGHV3-53\*01\_02\_A225G

89 sequences assigned  
27 (30.3%) exact matches, in which:  
26 unique CDR3  
5 unique J



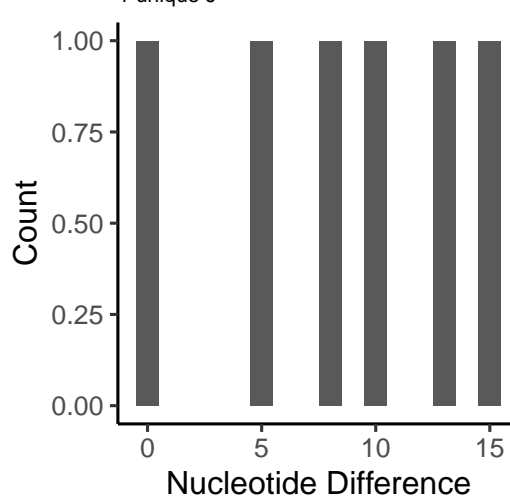
### IGHV3-48\*04

186 sequences assigned  
27 (14.5%) exact matches, in which:  
26 unique CDR3  
3 unique J



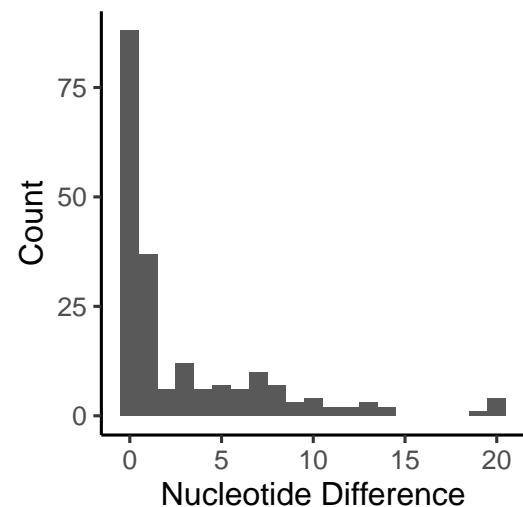
### IGHV3-52\*01\_03

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



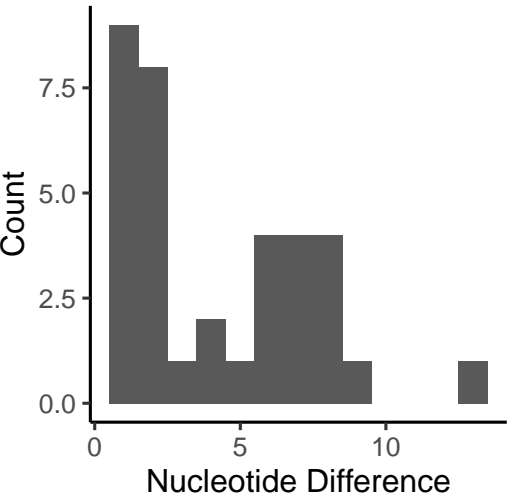
### IGHV3-64\*01

206 sequences assigned  
88 (42.7%) exact matches, in which:  
56 unique CDR3  
4 unique J



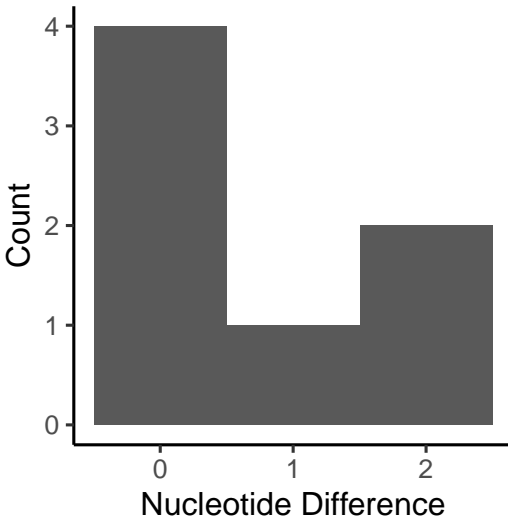
IGHV3-64\*04

36 sequences assigned  
No exact matches.



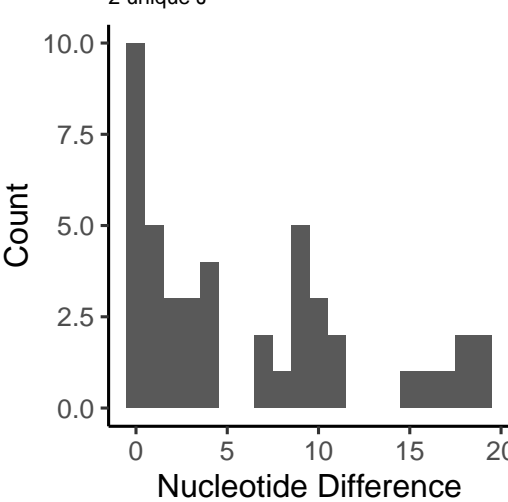
IGHV3-66\*03

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



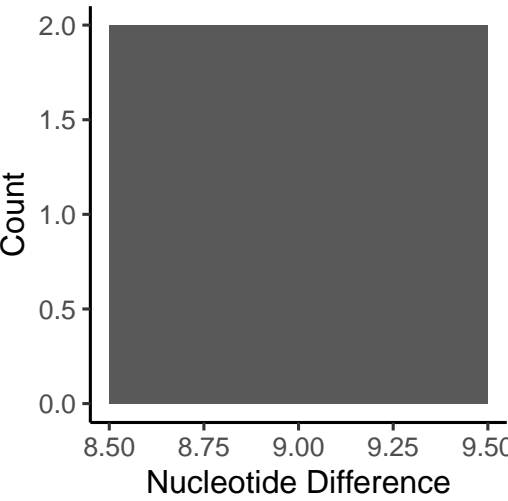
IGHV3-72\*01

56 sequences assigned  
10 (17.9%) exact matches, in which:  
7 unique CDR3  
2 unique J



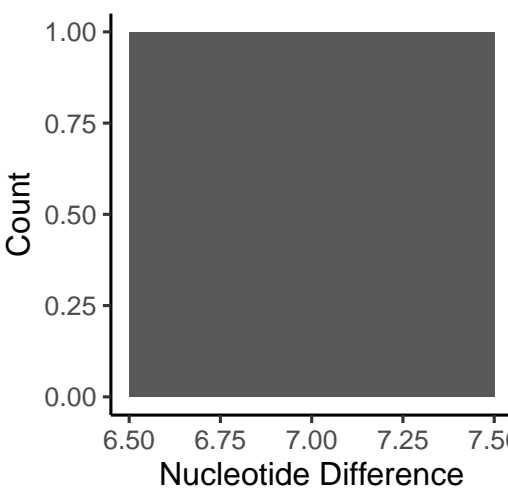
IGHV3-66\*01

2 sequences assigned  
No exact matches.



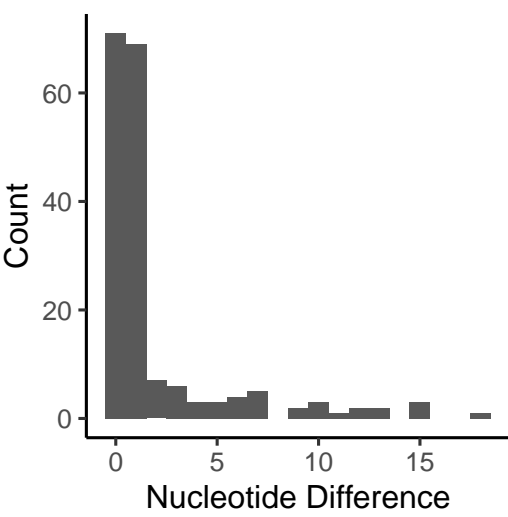
IGHV3-66\*04

4 sequences assigned  
No exact matches.



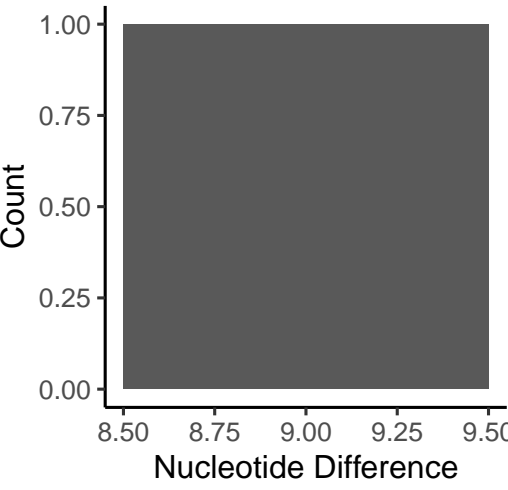
IGHV3-73\*01\_02

183 sequences assigned  
71 (38.8%) exact matches, in which:  
46 unique CDR3  
5 unique J



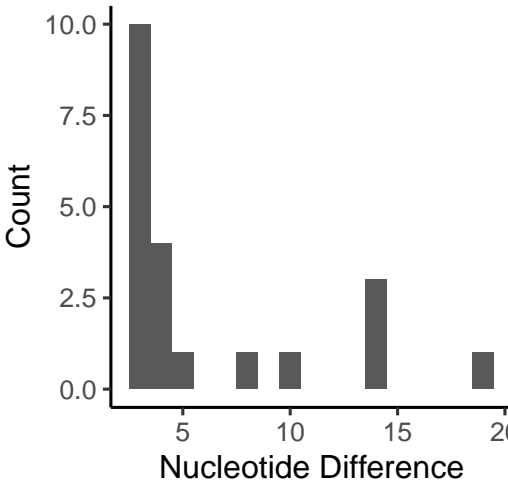
IGHV3-66\*02

1 sequences assigned  
No exact matches.



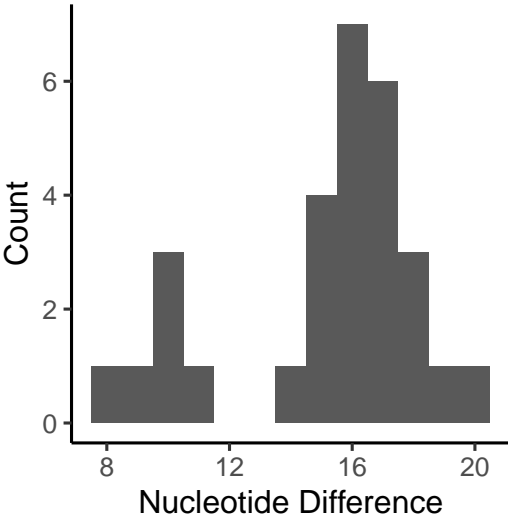
IGHV3-69-1\*01

21 sequences assigned  
No exact matches.



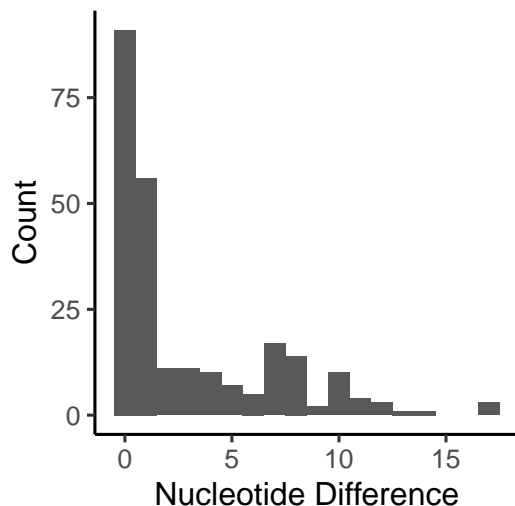
IGHV3-74\*03

77 sequences assigned  
No exact matches.



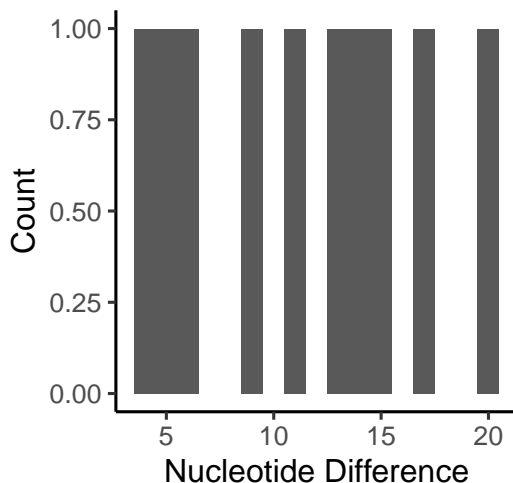
### IGHV3-74\*01\_02

260 sequences assigned  
91 (35%) exact matches, in which:  
65 unique CDR3  
5 unique J



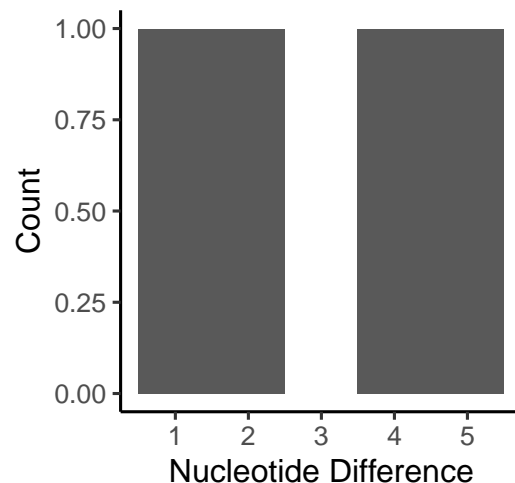
### IGHV3-NL1\*01

10 sequences assigned  
No exact matches.



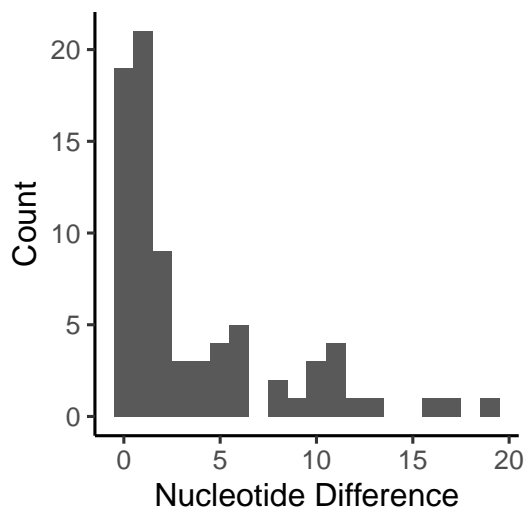
### IGHV4-28\*03

4 sequences assigned  
No exact matches.



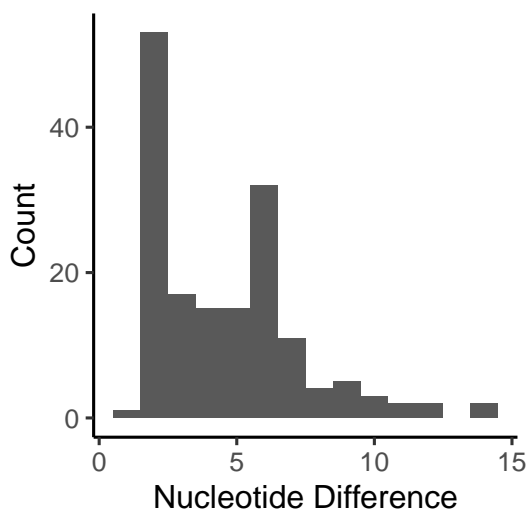
### IGHV3-43D\*03

90 sequences assigned  
19 (21.1%) exact matches, in which:  
13 unique CDR3  
3 unique J



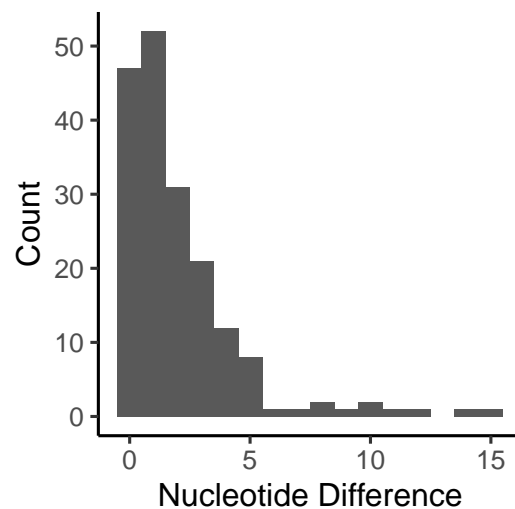
### IGHV4-4\*07

169 sequences assigned  
No exact matches.



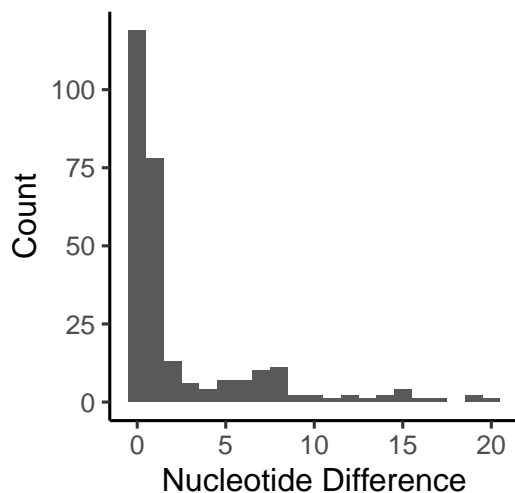
### IGHV4-30-2\*01

184 sequences assigned  
47 (25.5%) exact matches, in which:  
35 unique CDR3  
4 unique J



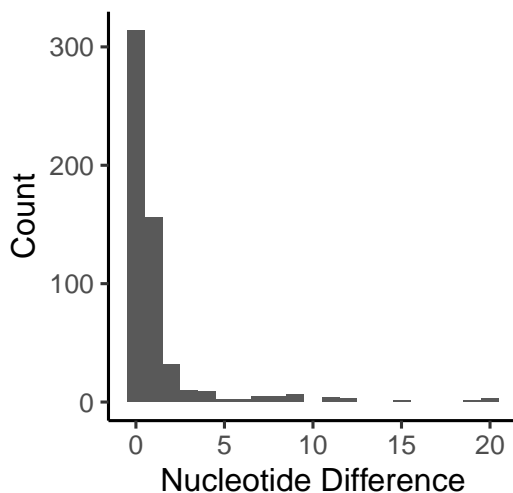
### IGHV3-64D\*06

303 sequences assigned  
119 (39.3%) exact matches, in which:  
68 unique CDR3  
5 unique J



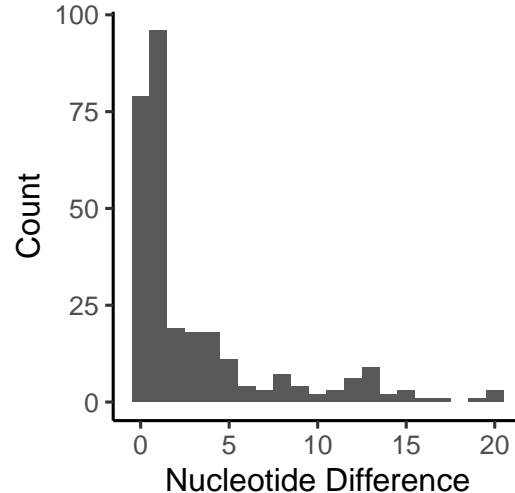
### IGHV4-4\*02\_03

566 sequences assigned  
314 (55.5%) exact matches, in which:  
251 unique CDR3  
6 unique J



### IGHV4-30-4\*01

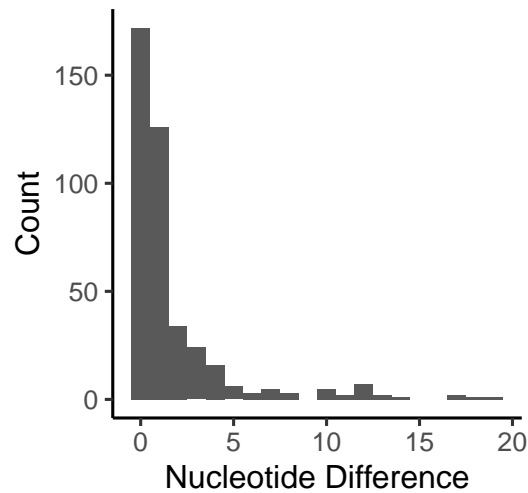
296 sequences assigned  
79 (26.7%) exact matches, in which:  
55 unique CDR3  
5 unique J





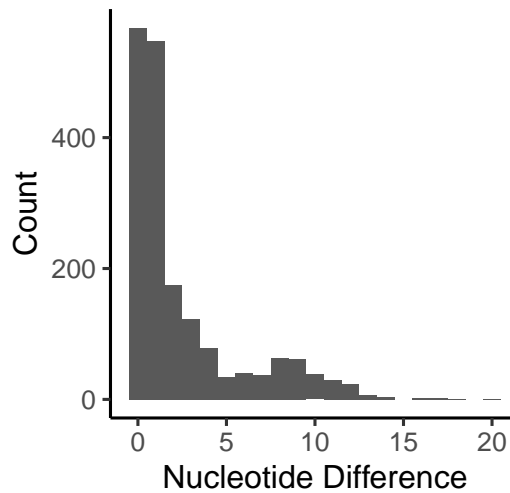
### IGHV4-31\*02

412 sequences assigned  
172 (41.7%) exact matches, in which:  
141 unique CDR3  
6 unique J



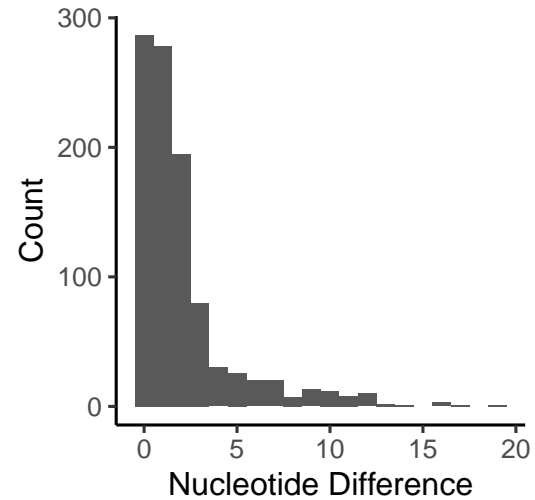
### IGHV4-39\*07

1861 sequences assigned  
568 (30.5%) exact matches, in which:  
478 unique CDR3  
6 unique J



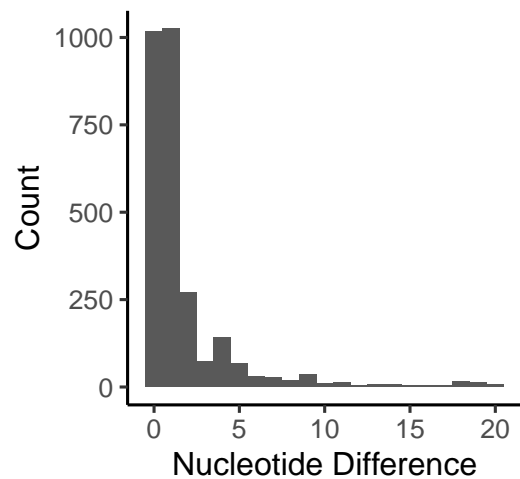
### IGHV4-61\*02

1014 sequences assigned  
287 (28.3%) exact matches, in which:  
264 unique CDR3  
6 unique J



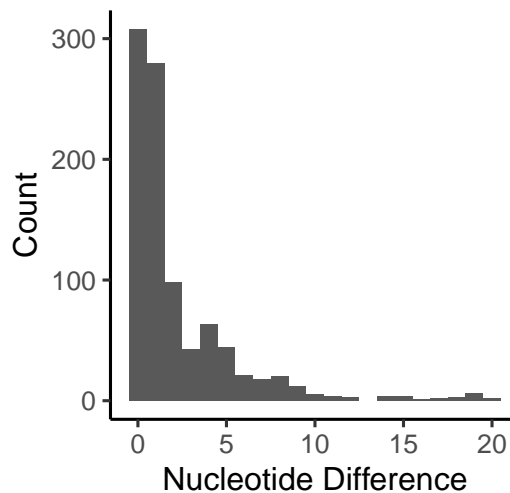
### IGHV4-34\*01\_02

2807 sequences assigned  
1018 (36.3%) exact matches, in which:  
750 unique CDR3  
6 unique J



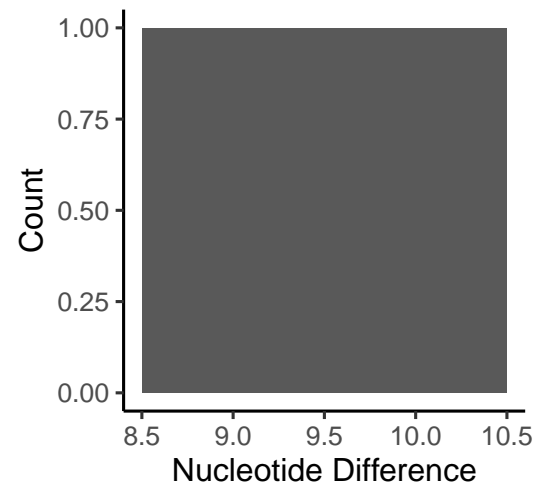
### IGHV4-59\*08

960 sequences assigned  
308 (32.1%) exact matches, in which:  
269 unique CDR3  
6 unique J



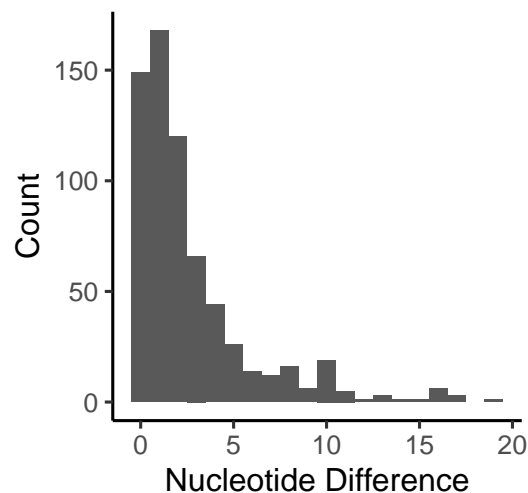
### IGHV1/OR15-3\*02

2 sequences assigned  
No exact matches.



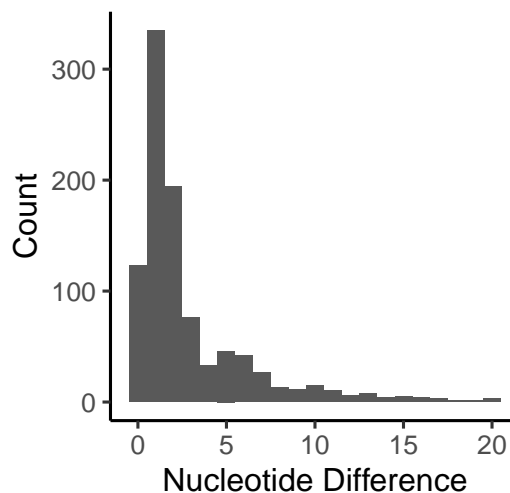
### IGHV4-38-2\*02

678 sequences assigned  
149 (22%) exact matches, in which:  
135 unique CDR3  
6 unique J



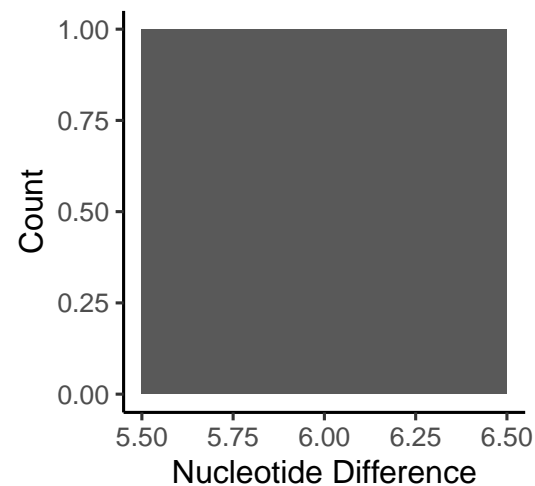
### IGHV4-59\*12

995 sequences assigned  
123 (12.4%) exact matches, in which:  
121 unique CDR3  
6 unique J



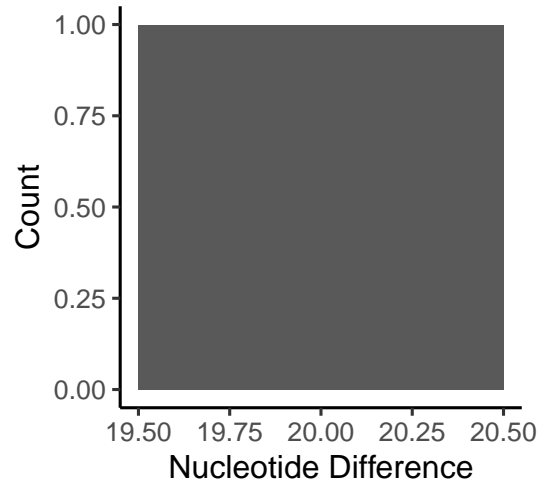
### IGHV4/OR15-8\*01

1 sequences assigned  
No exact matches.



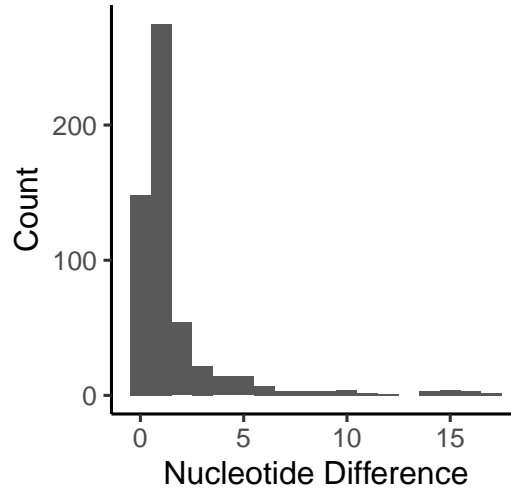
### IGHV4/OR15-8\*02

1 sequences assigned  
No exact matches.



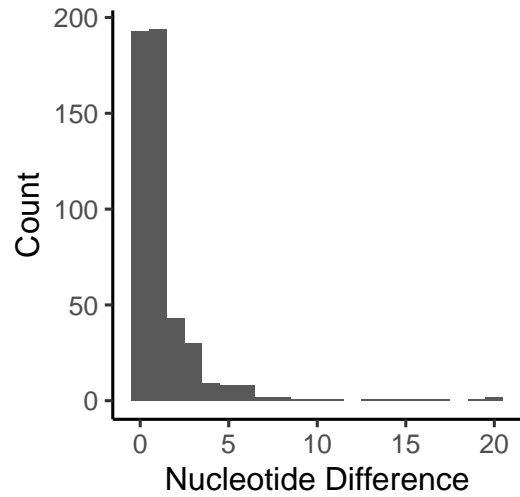
### IGHV6-1\*01\_02

562 sequences assigned  
148 (26.3%) exact matches, in which:  
130 unique CDR3  
5 unique J



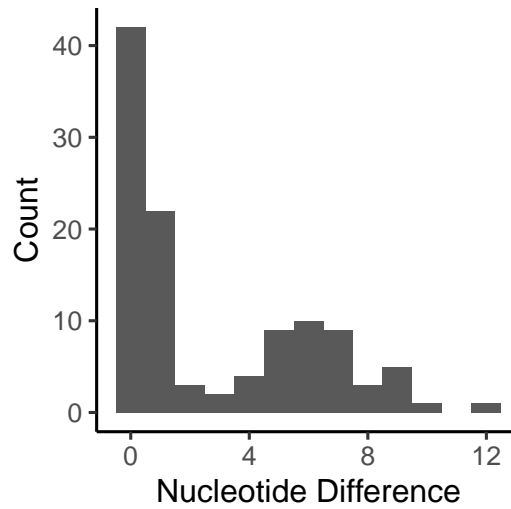
### IGHV5-10-1\*01\_03

501 sequences assigned  
193 (38.5%) exact matches, in which:  
133 unique CDR3  
5 unique J



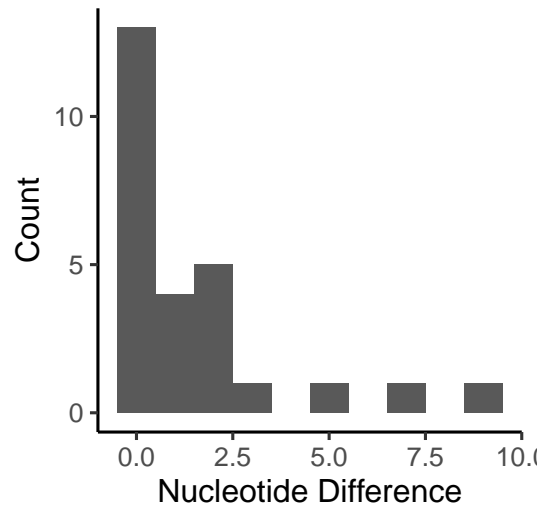
### IGHV6-1\*01\_02\_A315G

111 sequences assigned  
42 (37.8%) exact matches, in which:  
42 unique CDR3  
4 unique J



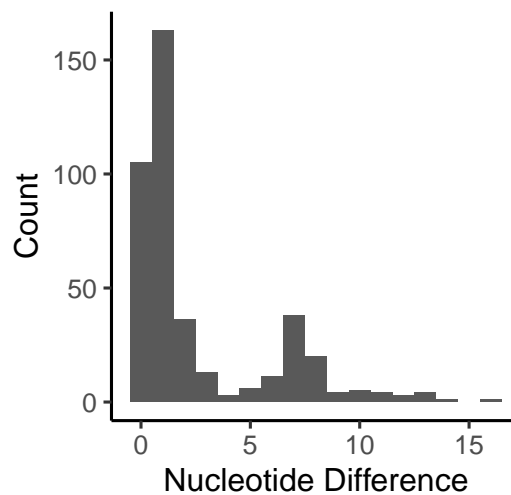
### IGHV5-51\*07

26 sequences assigned  
13 (50%) exact matches, in which:  
13 unique CDR3  
3 unique J



### IGHV7-4-1\*02

424 sequences assigned  
105 (24.8%) exact matches, in which:  
95 unique CDR3  
6 unique J





Warning – no inferred sequences found.