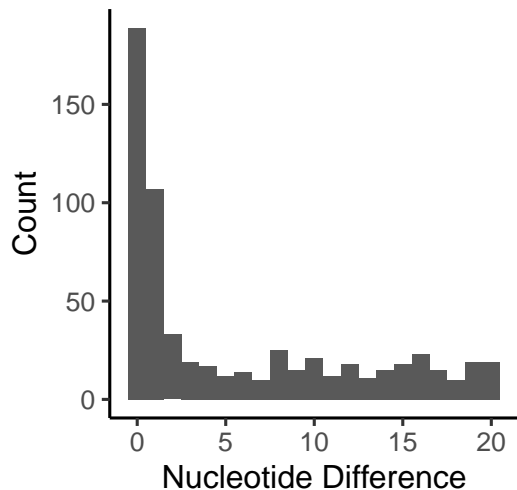


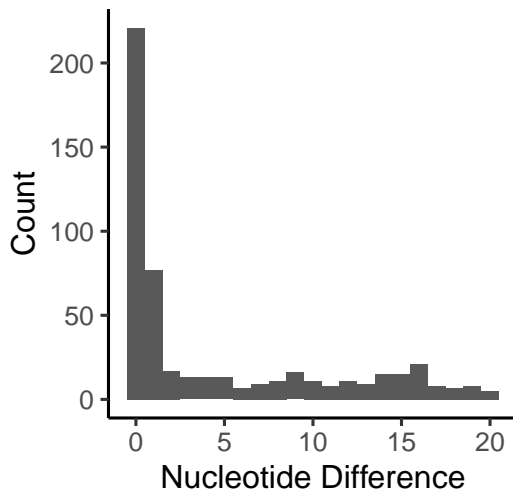
### IGHV1-2\*02

931 sequences assigned  
189 (20.3%) exact matches, in which:  
189 unique CDR3  
6 unique J



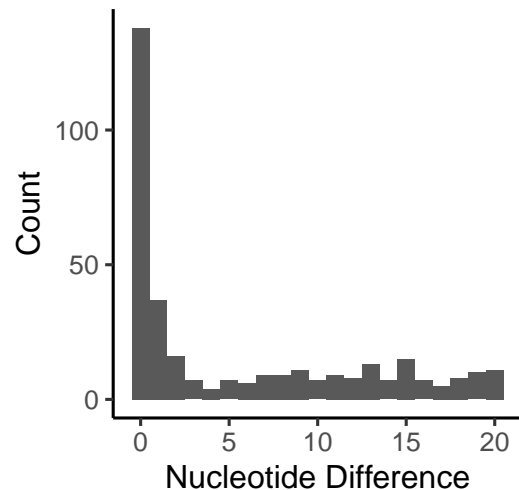
### IGHV1-18\*01

685 sequences assigned  
221 (32.3%) exact matches, in which:  
220 unique CDR3  
7 unique J



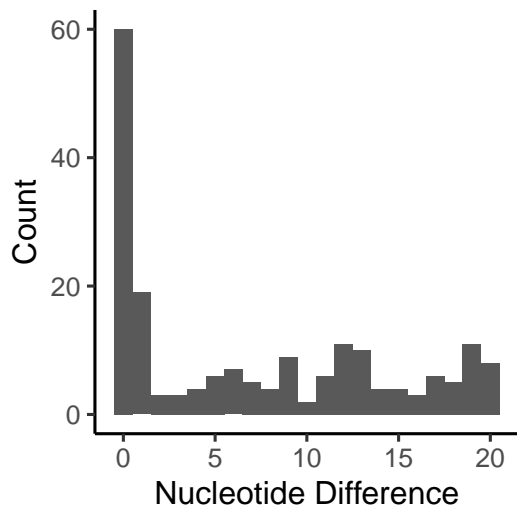
### IGHV1-46\*01

540 sequences assigned  
138 (25.6%) exact matches, in which:  
137 unique CDR3  
7 unique J



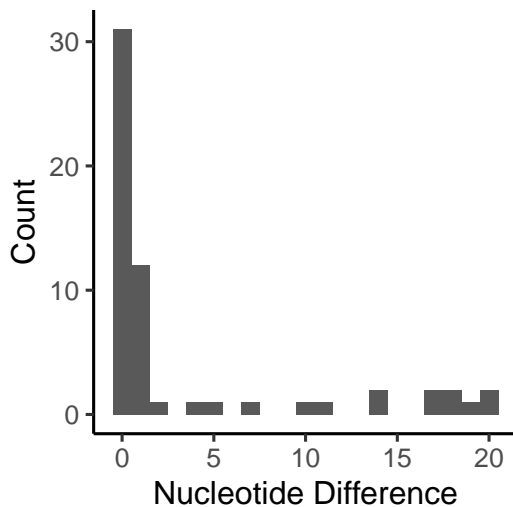
### IGHV1-3\*01

362 sequences assigned  
60 (16.6%) exact matches, in which:  
60 unique CDR3  
6 unique J



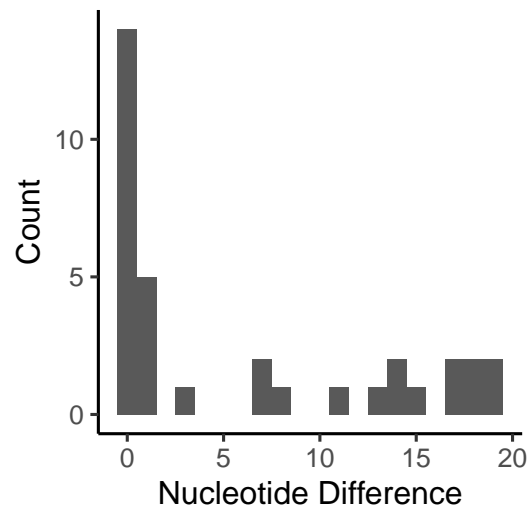
### IGHV1-24\*01

68 sequences assigned  
31 (45.6%) exact matches, in which:  
31 unique CDR3  
5 unique J



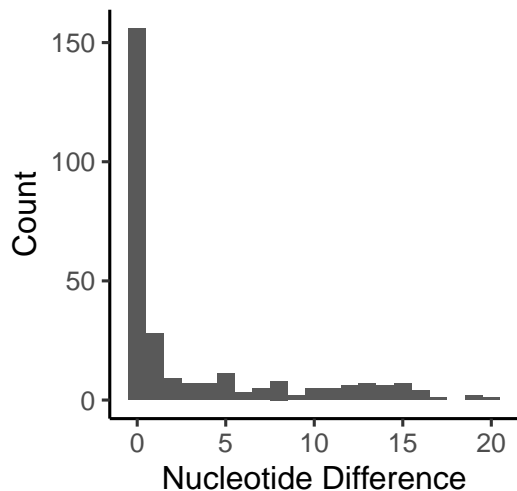
### IGHV1-58\*01

42 sequences assigned  
14 (33.3%) exact matches, in which:  
14 unique CDR3  
4 unique J



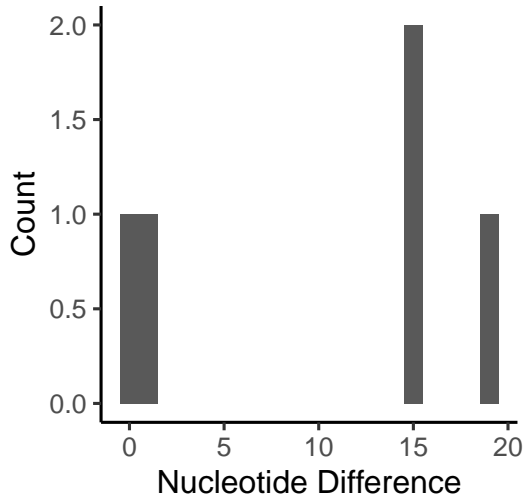
### IGHV1-8\*01

361 sequences assigned  
156 (43.2%) exact matches, in which:  
156 unique CDR3  
5 unique J



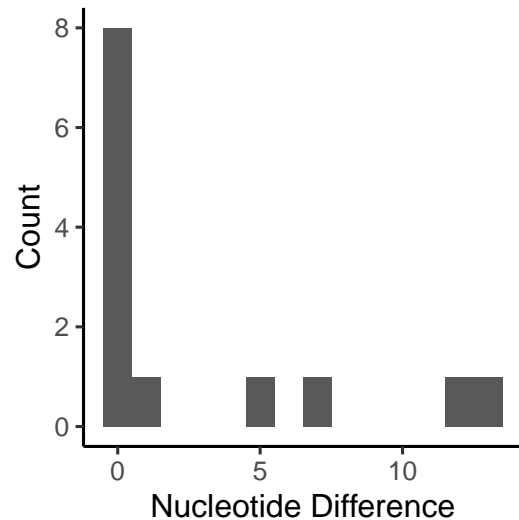
### IGHV1-45\*02

32 sequences assigned  
1 (3.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



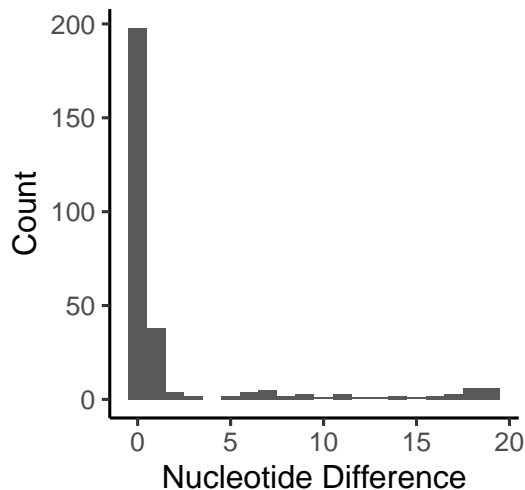
### IGHV1-58\*02

13 sequences assigned  
8 (61.5%) exact matches, in which:  
8 unique CDR3  
4 unique J



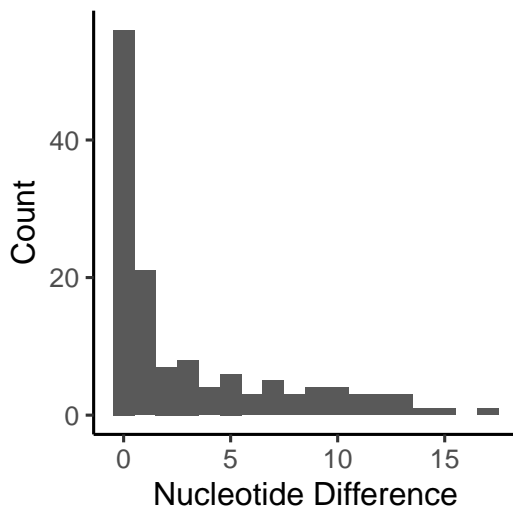
### IGHV1–69\*04

498 sequences assigned  
198 (39.8%) exact matches, in which:  
198 unique CDR3  
6 unique J



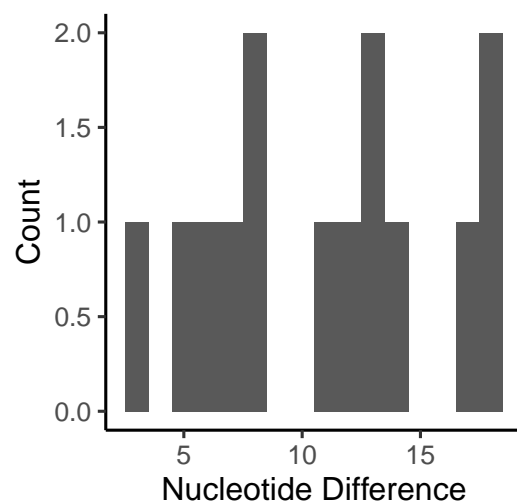
### IGHV2–26\*01

149 sequences assigned  
56 (37.6%) exact matches, in which:  
56 unique CDR3  
6 unique J



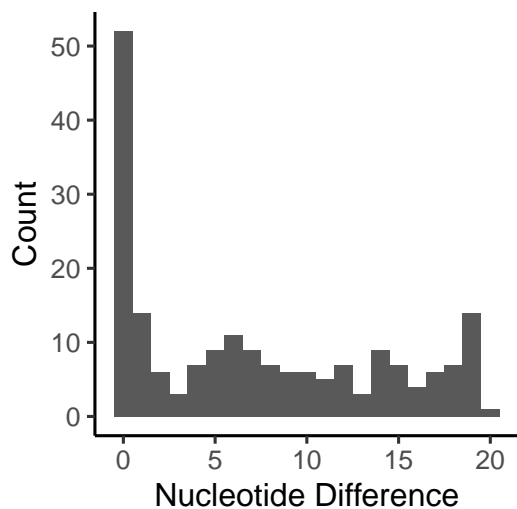
### IGHV2–70\*17

14 sequences assigned  
No exact matches.



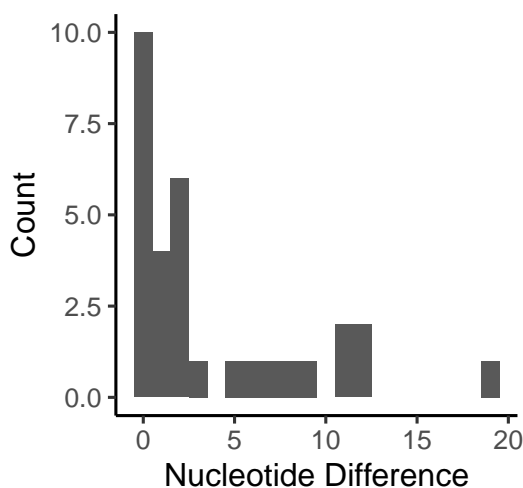
### IGHV2–5\*01

231 sequences assigned  
52 (22.5%) exact matches, in which:  
52 unique CDR3  
5 unique J



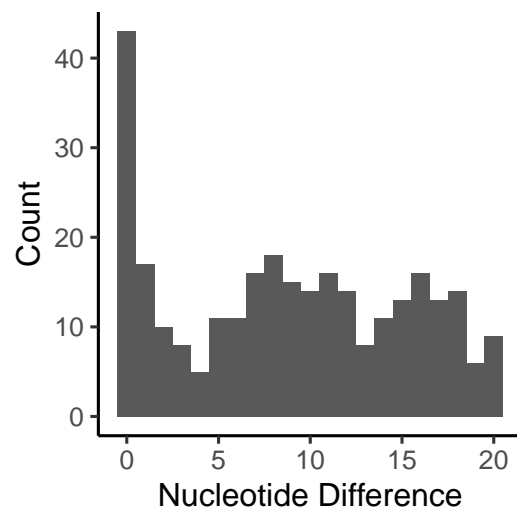
### IGHV2–70\*01

33 sequences assigned  
10 (30.3%) exact matches, in which:  
10 unique CDR3  
4 unique J



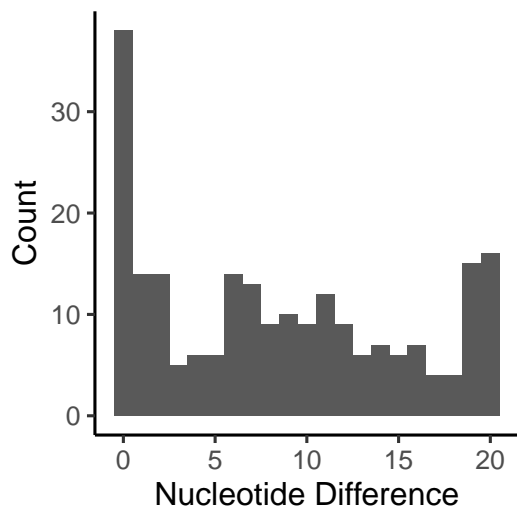
### IGHV3–7\*01

352 sequences assigned  
43 (12.2%) exact matches, in which:  
43 unique CDR3  
5 unique J



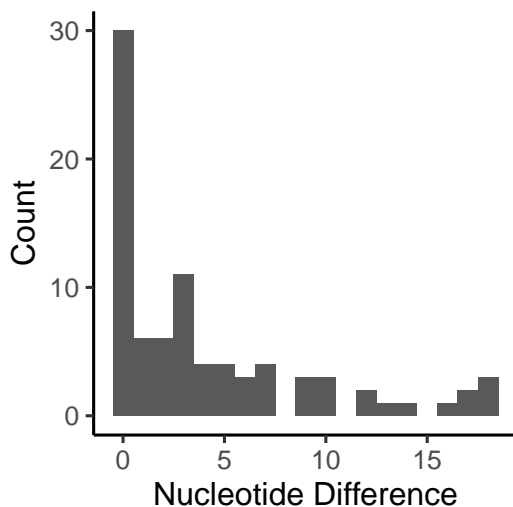
### IGHV2–5\*02

512 sequences assigned  
38 (7.4%) exact matches, in which:  
38 unique CDR3  
5 unique J



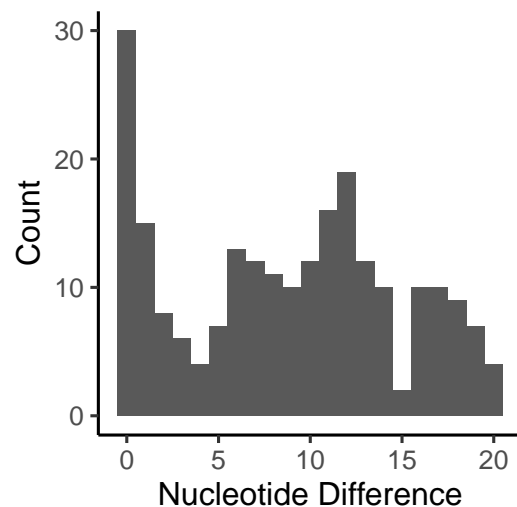
### IGHV2–70\*15

86 sequences assigned  
30 (34.9%) exact matches, in which:  
29 unique CDR3  
5 unique J



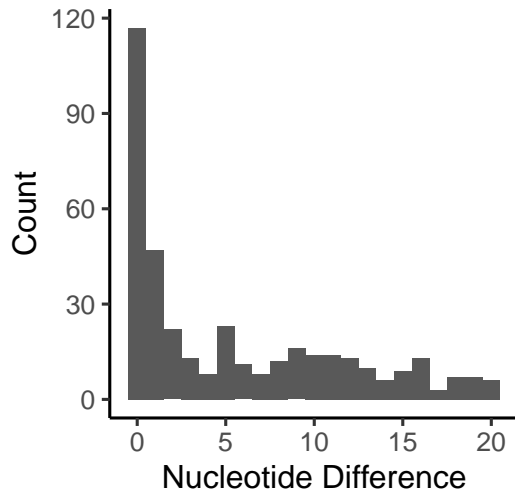
### IGHV3–7\*03

279 sequences assigned  
30 (10.8%) exact matches, in which:  
30 unique CDR3  
5 unique J



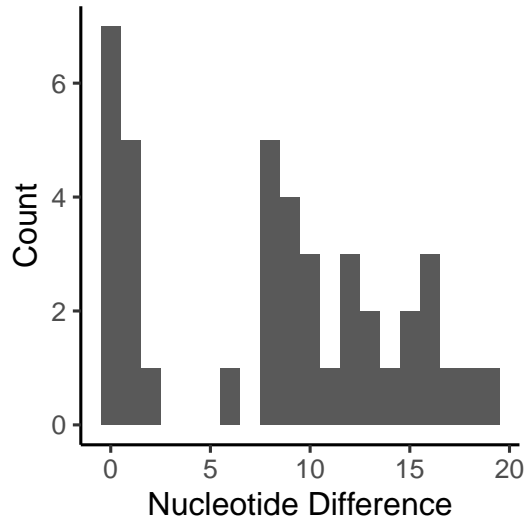
### IGHV3-9\*01

482 sequences assigned  
117 (24.3%) exact matches, in which:  
117 unique CDR3  
6 unique J



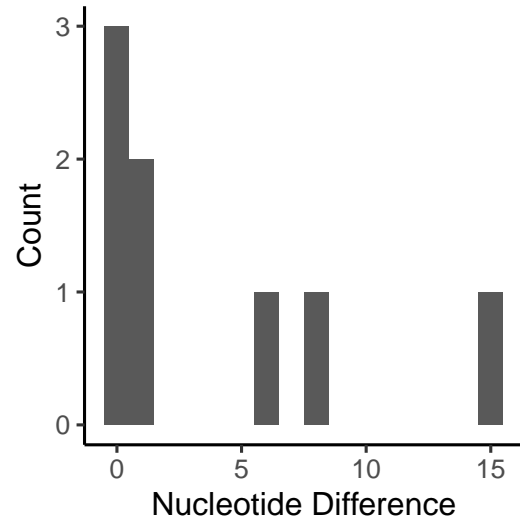
### IGHV3-13\*01

43 sequences assigned  
7 (16.3%) exact matches, in which:  
7 unique CDR3  
5 unique J



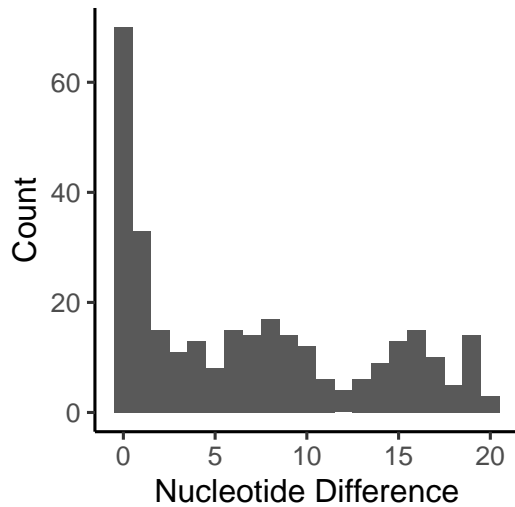
### IGHV3-20\*01

8 sequences assigned  
3 (37.5%) exact matches, in which:  
3 unique CDR3  
3 unique J



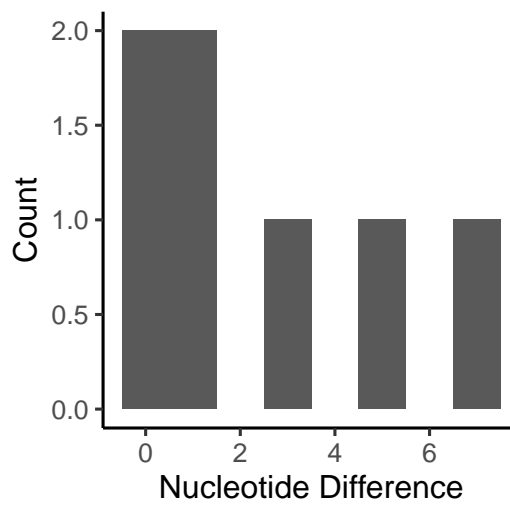
### IGHV3-11\*01

343 sequences assigned  
70 (20.4%) exact matches, in which:  
70 unique CDR3  
6 unique J



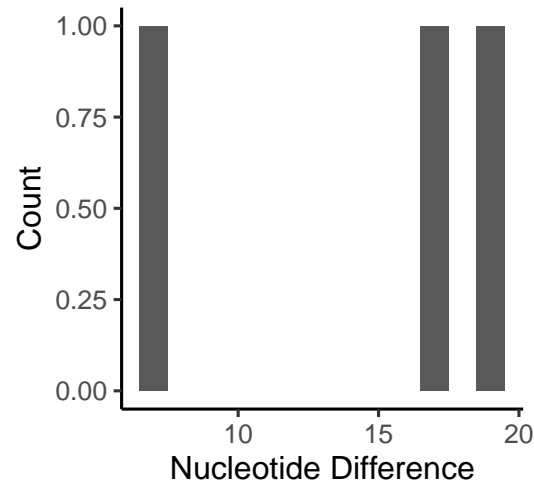
### IGHV3-13\*05

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



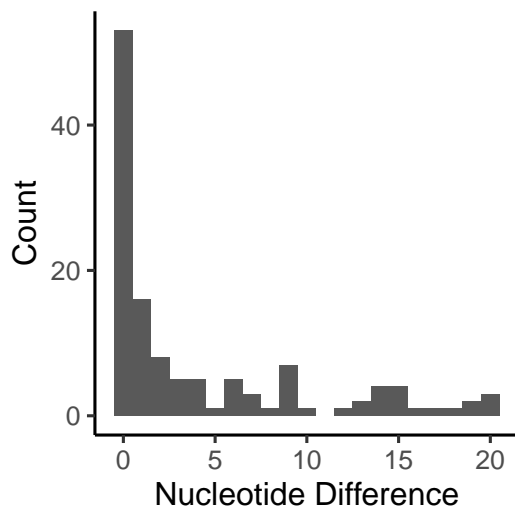
### IGHV3-20\*04

9 sequences assigned  
No exact matches.



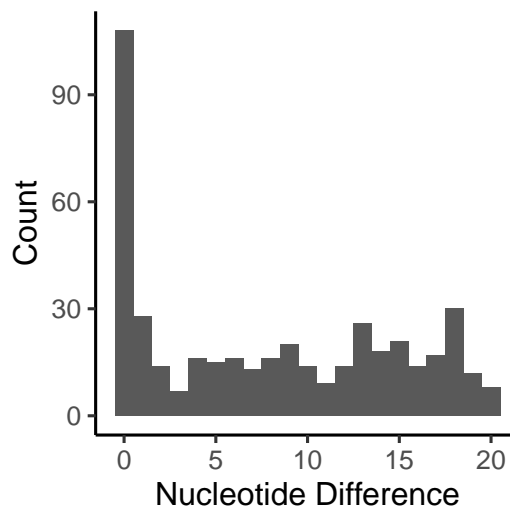
### IGHV3-11\*06

149 sequences assigned  
53 (35.6%) exact matches, in which:  
53 unique CDR3  
6 unique J



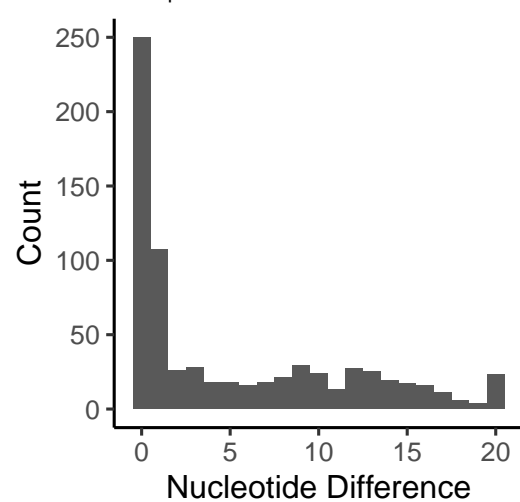
### IGHV3-15\*01

558 sequences assigned  
108 (19.4%) exact matches, in which:  
108 unique CDR3  
7 unique J



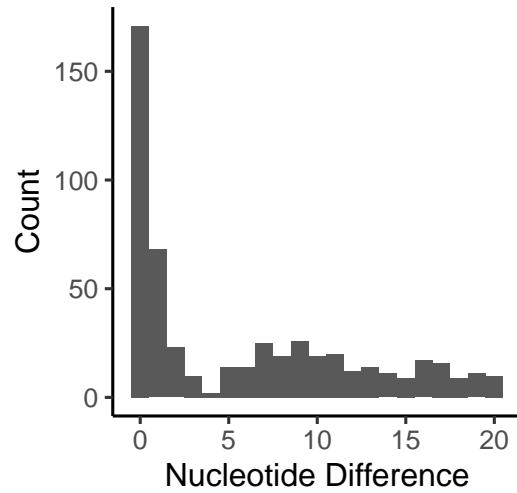
### IGHV3-21\*01

834 sequences assigned  
250 (30%) exact matches, in which:  
248 unique CDR3  
7 unique J



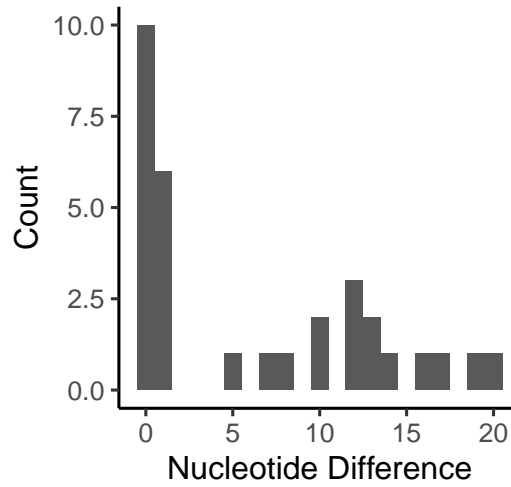
### IGHV3-30-3\*01

1204 sequences assigned  
171 (14.2%) exact matches, in which:  
171 unique CDR3  
6 unique J



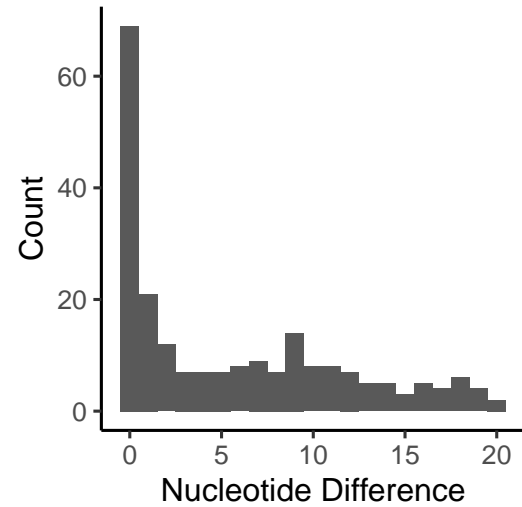
### IGHV3-43\*01

43 sequences assigned  
10 (23.3%) exact matches, in which:  
10 unique CDR3  
3 unique J



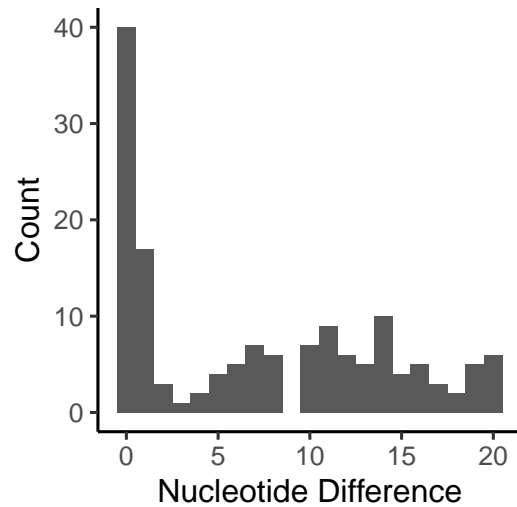
### IGHV3-48\*03

257 sequences assigned  
69 (26.8%) exact matches, in which:  
69 unique CDR3  
5 unique J



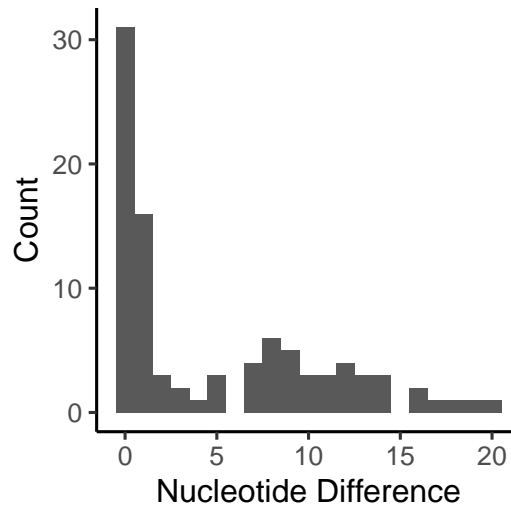
### IGHV3-30-3\*01\_T158G

351 sequences assigned  
40 (11.4%) exact matches, in which:  
40 unique CDR3  
4 unique J



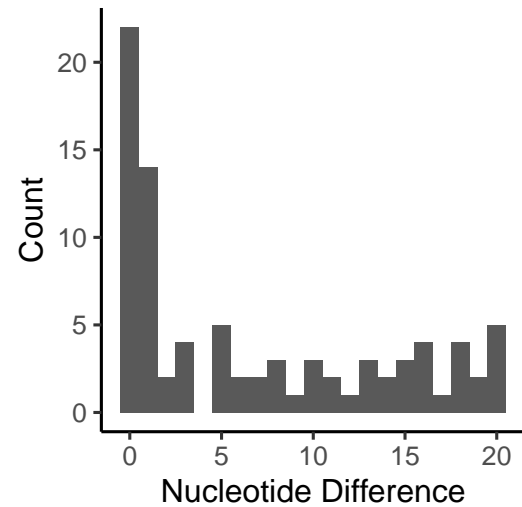
### IGHV3-43\*02

116 sequences assigned  
31 (26.7%) exact matches, in which:  
31 unique CDR3  
5 unique J



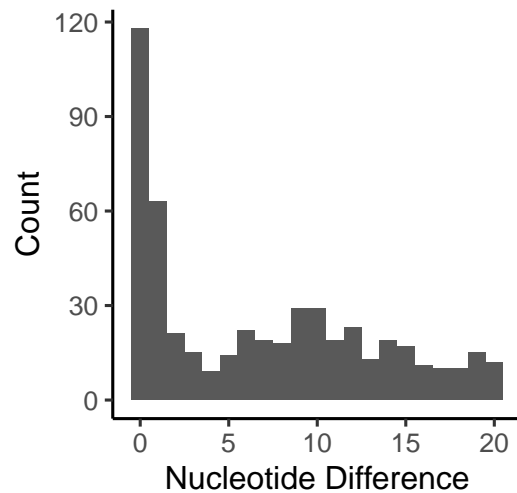
### IGHV3-49\*04

133 sequences assigned  
22 (16.5%) exact matches, in which:  
22 unique CDR3  
3 unique J



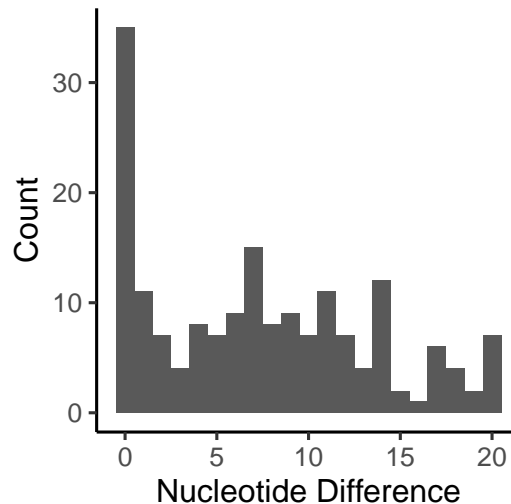
### IGHV3-33\*01

696 sequences assigned  
118 (17%) exact matches, in which:  
118 unique CDR3  
6 unique J



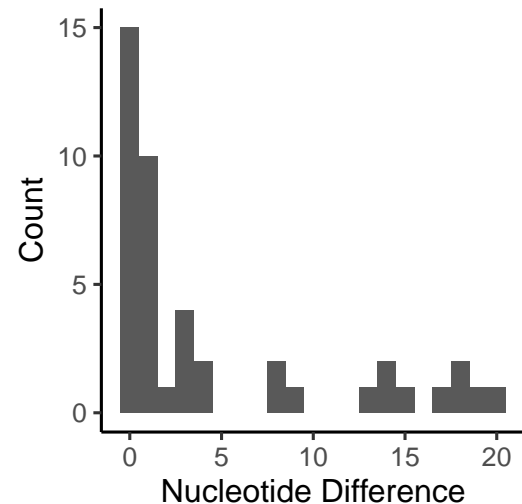
### IGHV3-48\*02

204 sequences assigned  
35 (17.2%) exact matches, in which:  
35 unique CDR3  
5 unique J



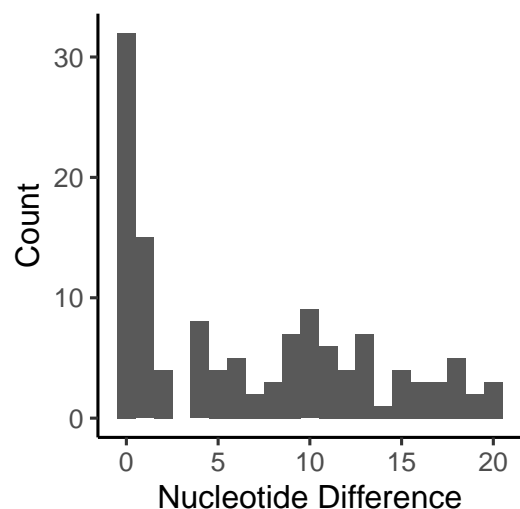
### IGHV3-49\*05

92 sequences assigned  
15 (16.3%) exact matches, in which:  
15 unique CDR3  
3 unique J



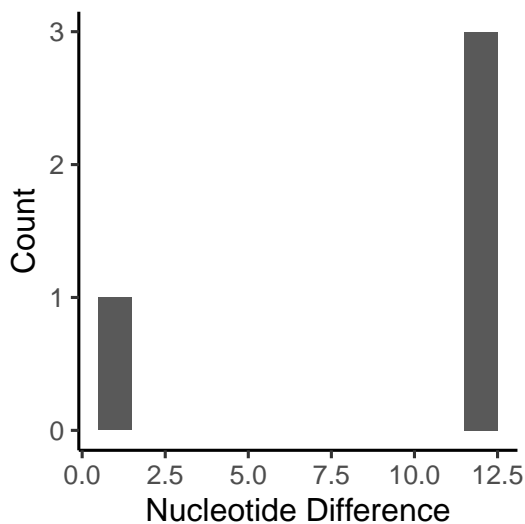
### IGHV3-53\*01

209 sequences assigned  
32 (15.3%) exact matches, in which:  
32 unique CDR3  
5 unique J



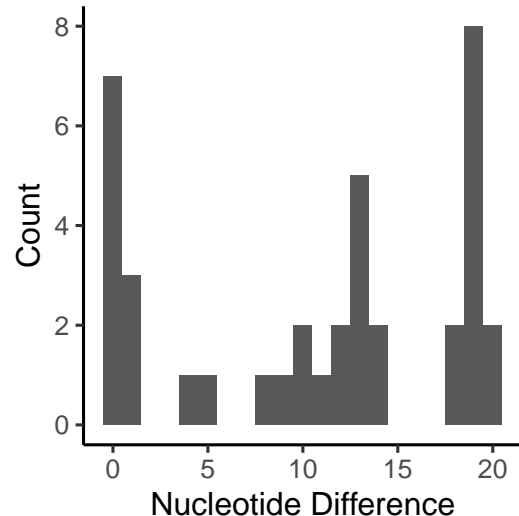
### IGHV3-64\*07

16 sequences assigned  
No exact matches.



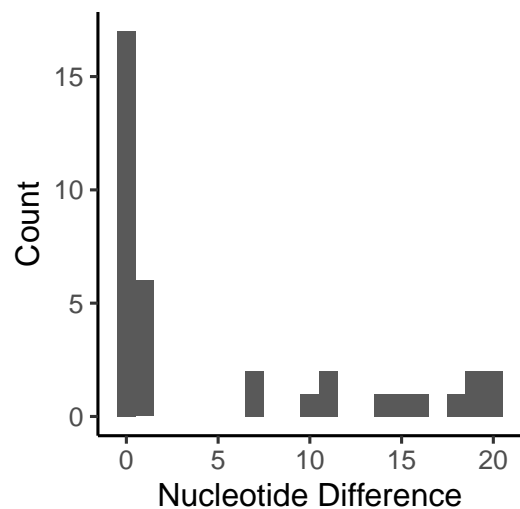
### IGHV3-73\*01

63 sequences assigned  
7 (11.1%) exact matches, in which:  
7 unique CDR3  
3 unique J



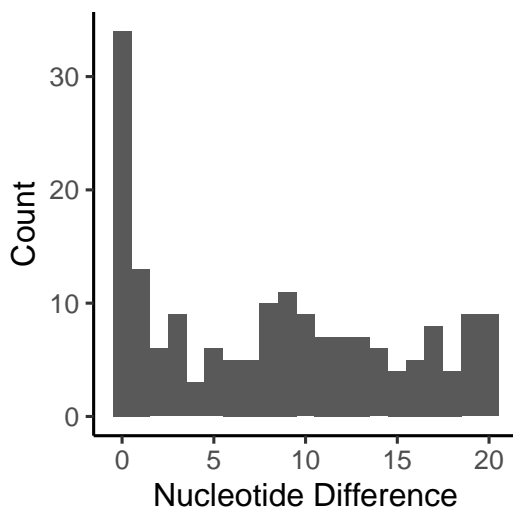
### IGHV3-53\*04

37 sequences assigned  
17 (45.9%) exact matches, in which:  
17 unique CDR3  
4 unique J



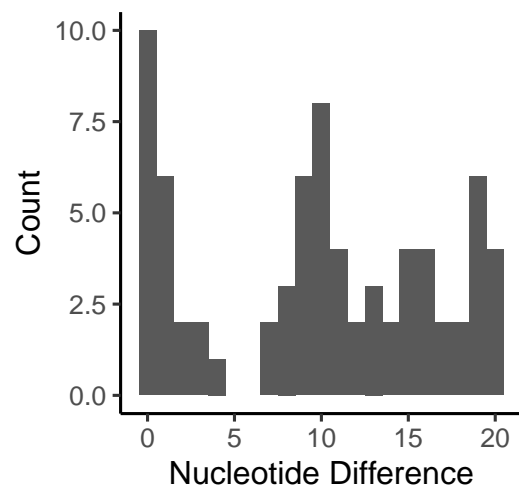
### IGHV3-66\*01

210 sequences assigned  
34 (16.2%) exact matches, in which:  
34 unique CDR3  
4 unique J



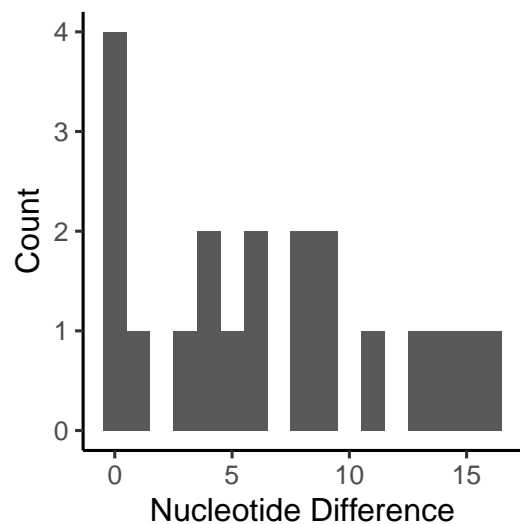
### IGHV3-73\*02

90 sequences assigned  
10 (11.1%) exact matches, in which:  
10 unique CDR3  
5 unique J



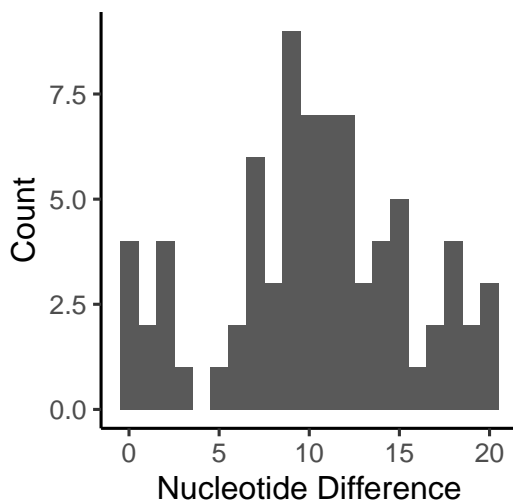
### IGHV3-64\*01

23 sequences assigned  
4 (17.4%) exact matches, in which:  
4 unique CDR3  
3 unique J



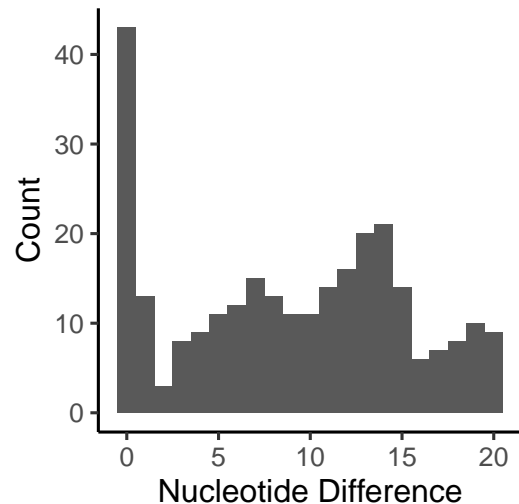
### IGHV3-72\*01

93 sequences assigned  
4 (4.3%) exact matches, in which:  
4 unique CDR3  
3 unique J



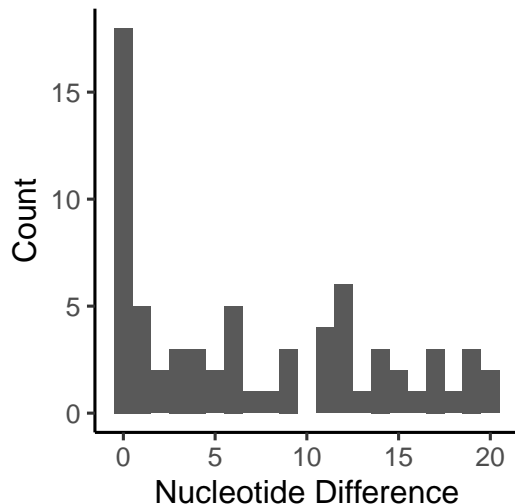
### IGHV3-74\*01

361 sequences assigned  
43 (11.9%) exact matches, in which:  
43 unique CDR3  
7 unique J



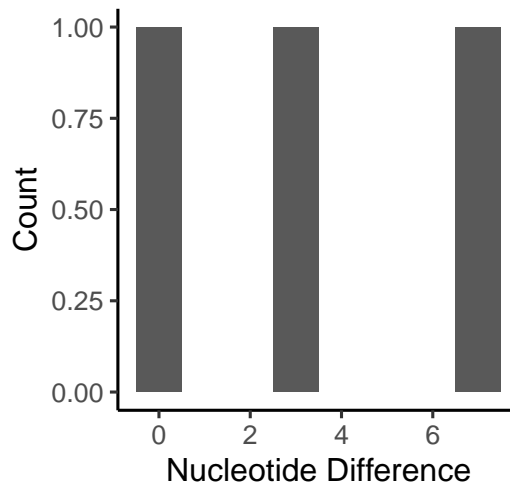
### IGHV3-64D\*06

90 sequences assigned  
18 (20%) exact matches, in which:  
18 unique CDR3  
5 unique J



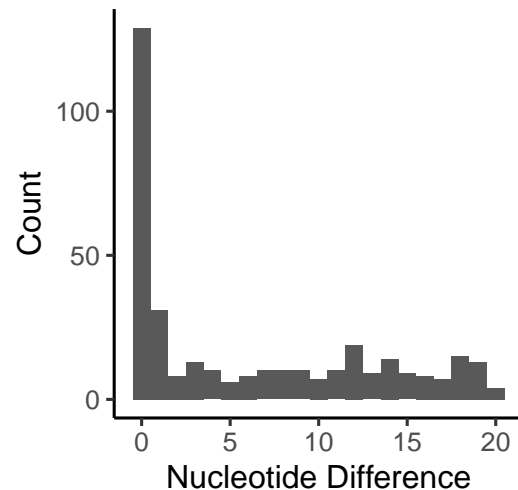
### IGHV4-28\*01

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



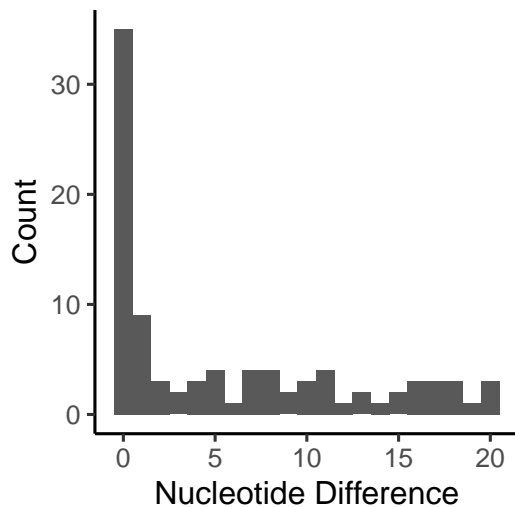
### IGHV4-31\*03

464 sequences assigned  
129 (27.8%) exact matches, in which:  
129 unique CDR3  
7 unique J



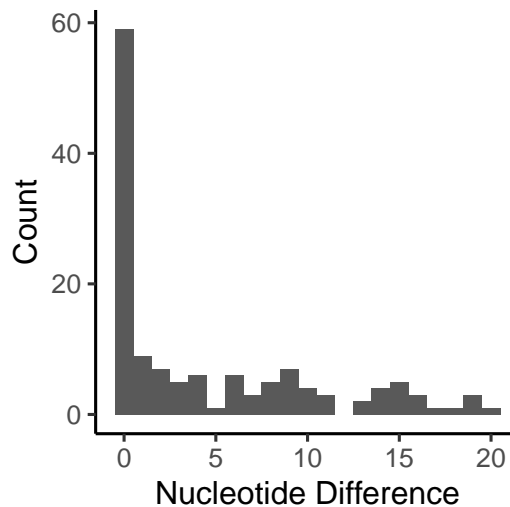
### IGHV4-4\*07

117 sequences assigned  
35 (29.9%) exact matches, in which:  
35 unique CDR3  
4 unique J



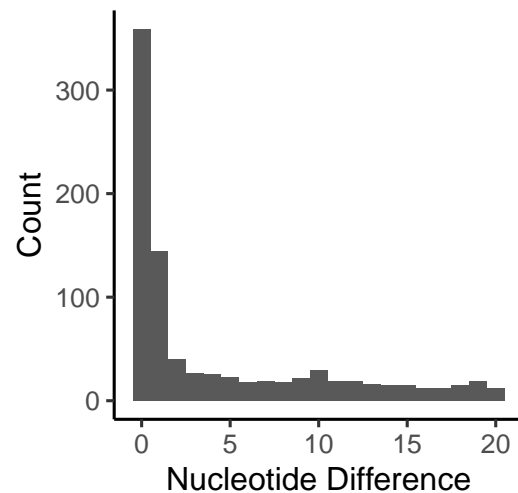
### IGHV4-30-4\*01

175 sequences assigned  
59 (33.7%) exact matches, in which:  
59 unique CDR3  
5 unique J



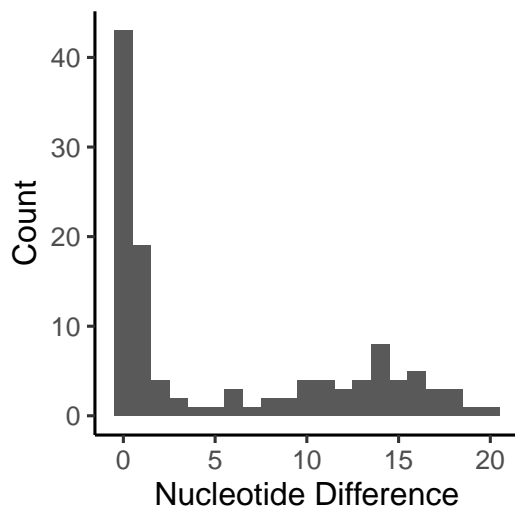
### IGHV4-34\*01

1151 sequences assigned  
359 (31.2%) exact matches, in which:  
359 unique CDR3  
7 unique J



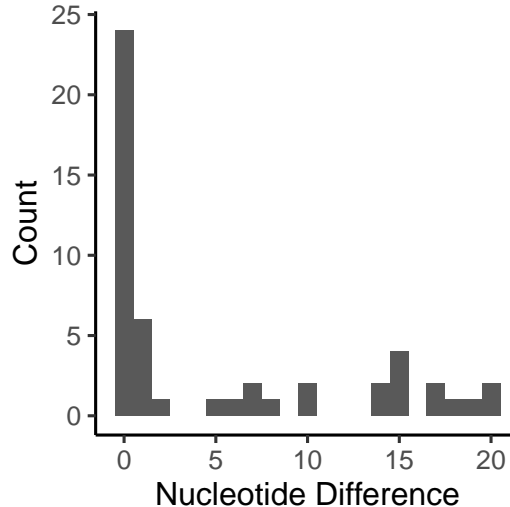
### IGHV4-4\*02\_C20T

190 sequences assigned  
43 (22.6%) exact matches, in which:  
43 unique CDR3  
4 unique J



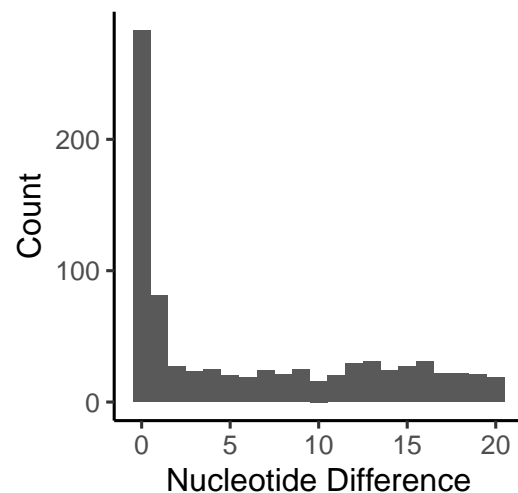
### IGHV4-30-2\*01

60 sequences assigned  
24 (40%) exact matches, in which:  
24 unique CDR3  
4 unique J



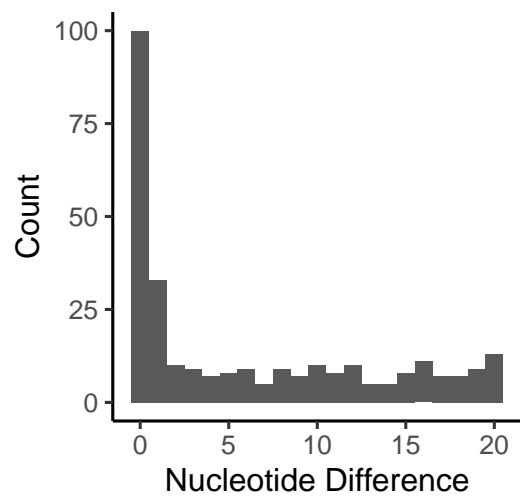
### IGHV4-39\*01

1144 sequences assigned  
283 (24.7%) exact matches, in which:  
283 unique CDR3  
7 unique J



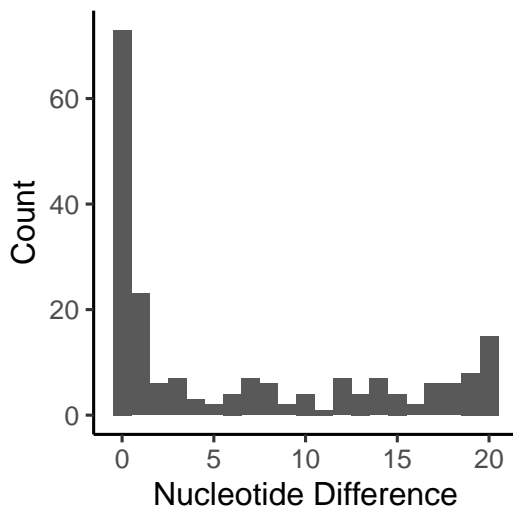
### IGHV4–59\*01

405 sequences assigned  
100 (24.7%) exact matches, in which:  
100 unique CDR3  
7 unique J



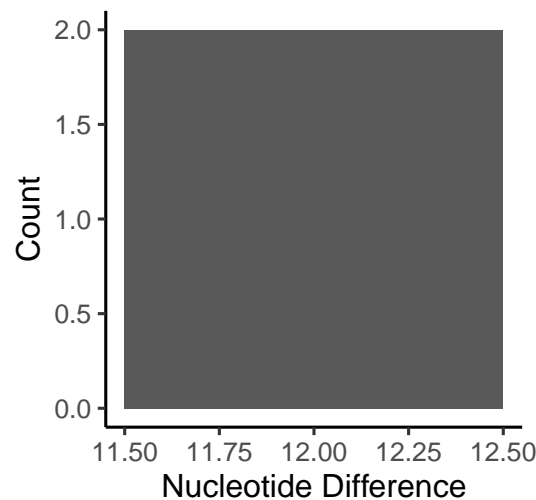
### IGHV5–10–1\*03

286 sequences assigned  
73 (25.5%) exact matches, in which:  
73 unique CDR3  
5 unique J



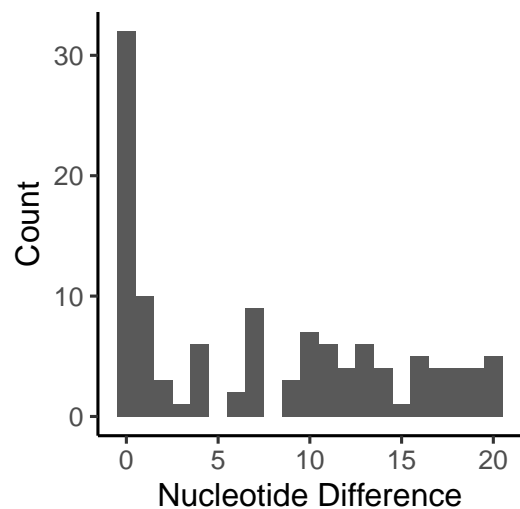
### IGHV7–4–1\*01

2 sequences assigned  
No exact matches.



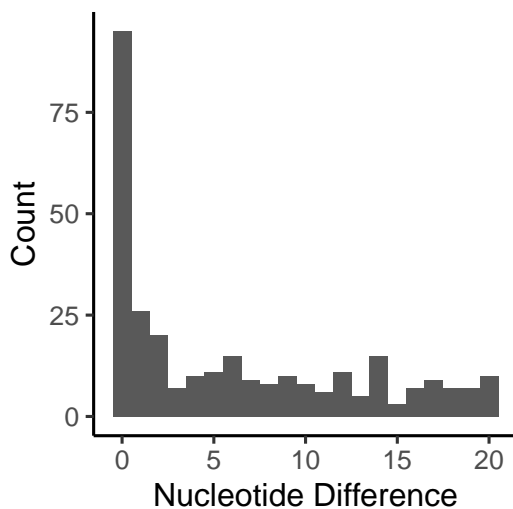
### IGHV4–59\*08

158 sequences assigned  
32 (20.3%) exact matches, in which:  
32 unique CDR3  
5 unique J



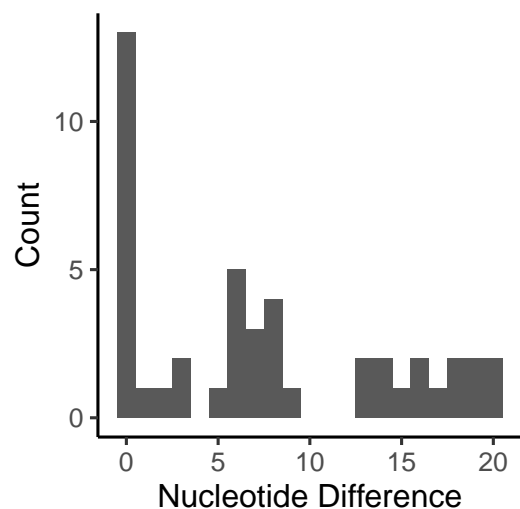
### IGHV5–51\*01

426 sequences assigned  
95 (22.3%) exact matches, in which:  
95 unique CDR3  
6 unique J



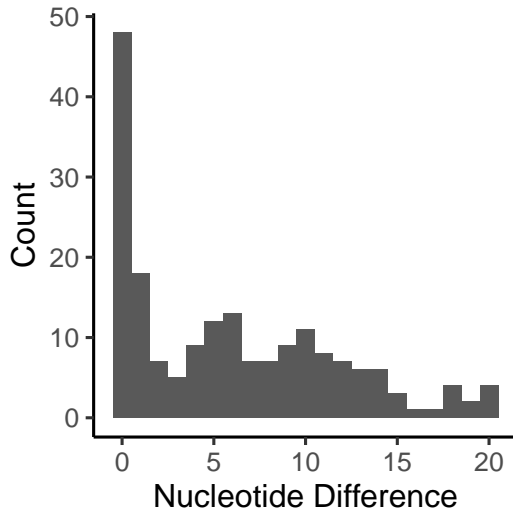
### IGHV4–61\*01

60 sequences assigned  
13 (21.7%) exact matches, in which:  
13 unique CDR3  
5 unique J

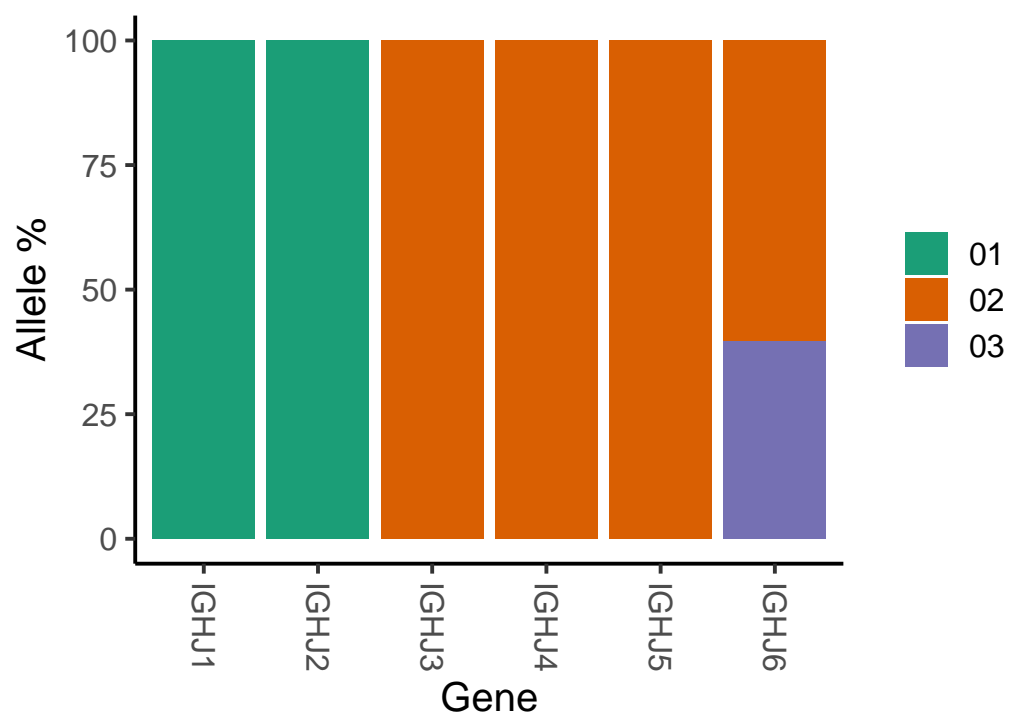


### IGHV6–1\*01

205 sequences assigned  
48 (23.4%) exact matches, in which:  
48 unique CDR3  
7 unique J



Allele Usage





Sequence Count byIGHJ6 allele usage



Warning – no inferred sequences found.