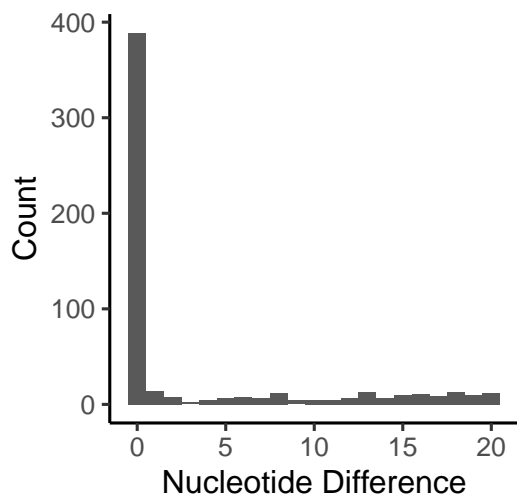


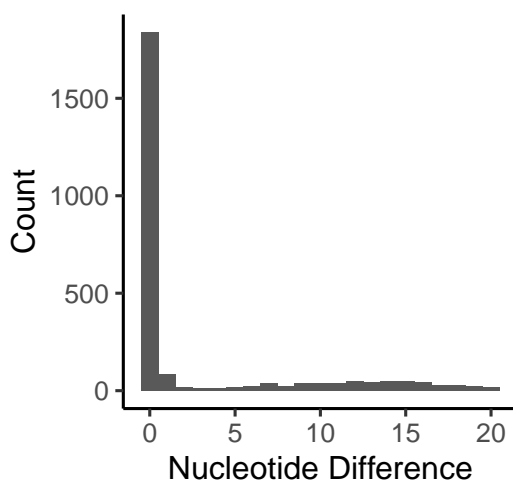
### IGHV1-2\*02

639 sequences assigned  
389 (60.9%) exact matches, in which:  
389 unique CDR3  
6 unique J



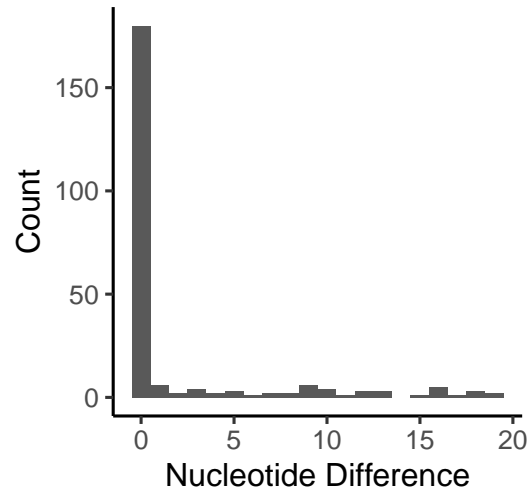
### IGHV1-18\*04

2622 sequences assigned  
1838 (70.1%) exact matches, in which:  
1830 unique CDR3  
6 unique J



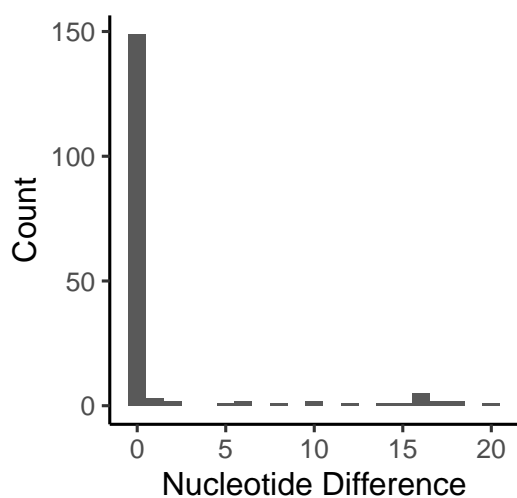
### IGHV1-46\*01

241 sequences assigned  
180 (74.7%) exact matches, in which:  
179 unique CDR3  
6 unique J



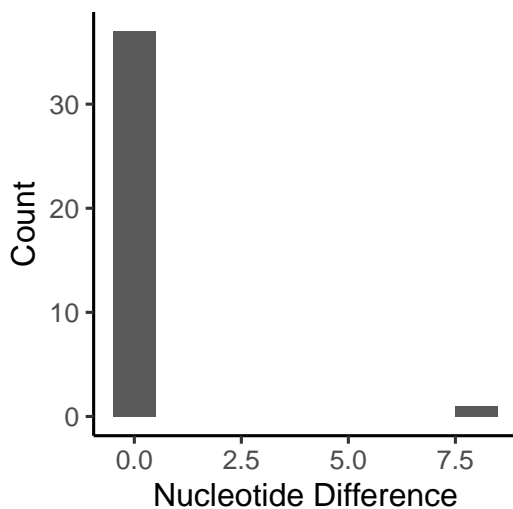
### IGHV1-2\*04

178 sequences assigned  
149 (83.7%) exact matches, in which:  
149 unique CDR3  
6 unique J



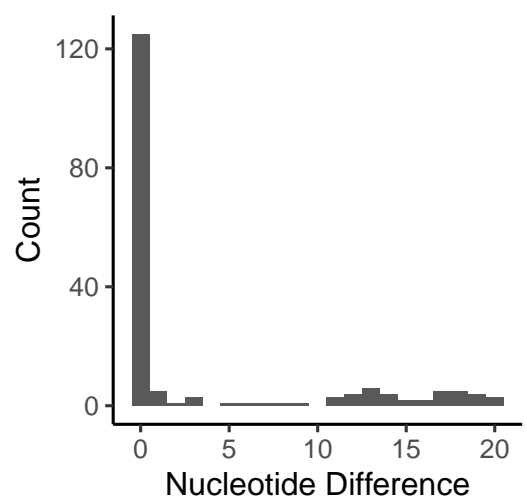
### IGHV1-24\*01

38 sequences assigned  
37 (97.4%) exact matches, in which:  
37 unique CDR3  
5 unique J



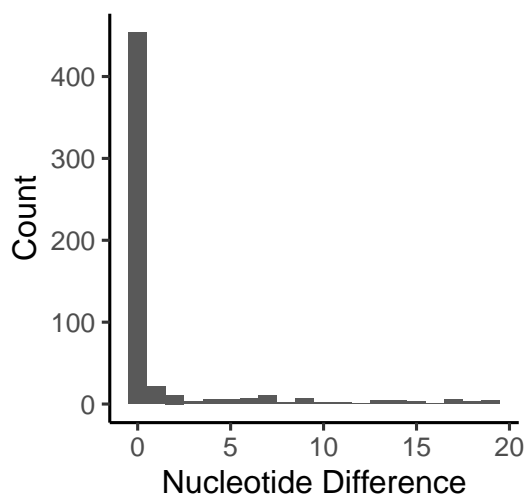
### IGHV1-46\*04

243 sequences assigned  
125 (51.4%) exact matches, in which:  
125 unique CDR3  
5 unique J



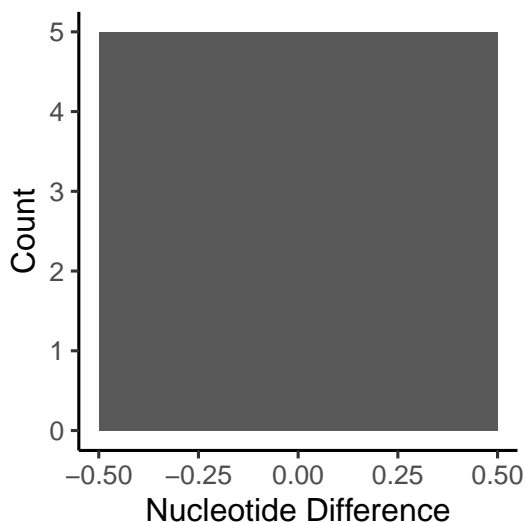
### IGHV1-8\*01

571 sequences assigned  
454 (79.5%) exact matches, in which:  
454 unique CDR3  
6 unique J



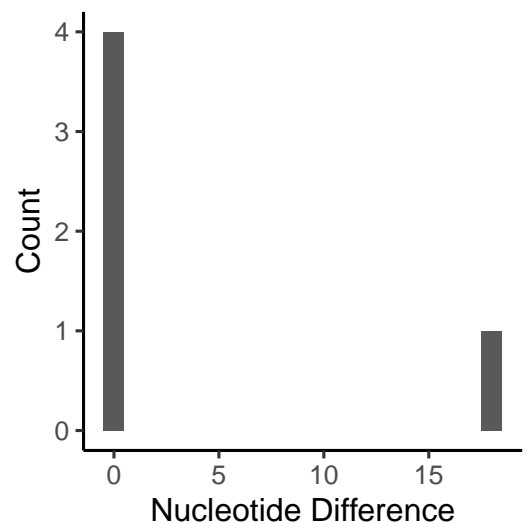
### IGHV1-45\*02

6 sequences assigned  
5 (83.3%) exact matches, in which:  
5 unique CDR3  
2 unique J



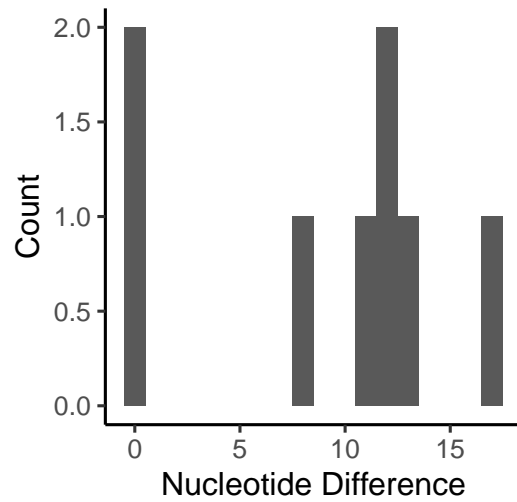
### IGHV1-58\*02

5 sequences assigned  
4 (80%) exact matches, in which:  
4 unique CDR3  
2 unique J



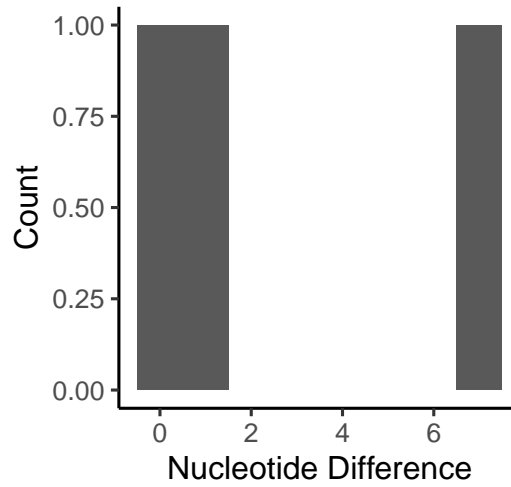
### IGHV1-58\*01\_03

12 sequences assigned  
2 (16.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



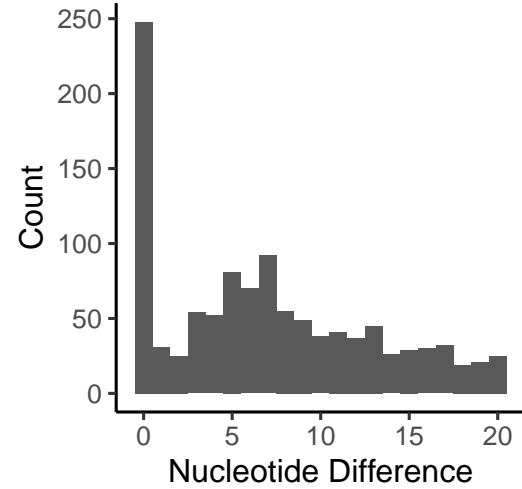
### IGHV2-5\*01

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



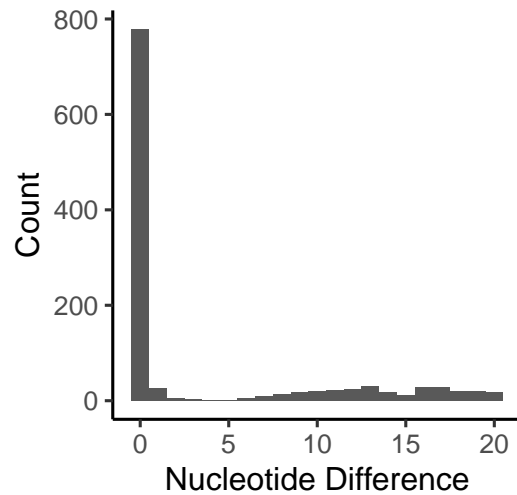
### IGHV3-7\*01

1159 sequences assigned  
248 (21.4%) exact matches, in which:  
248 unique CDR3  
6 unique J



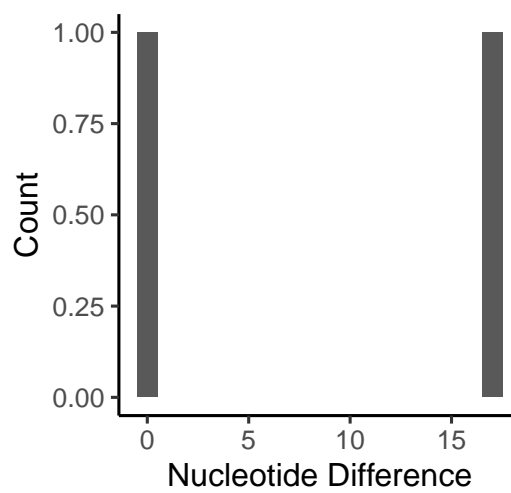
### IGHV1-69\*01\_12\_13

1283 sequences assigned  
779 (60.7%) exact matches, in which:  
778 unique CDR3  
6 unique J



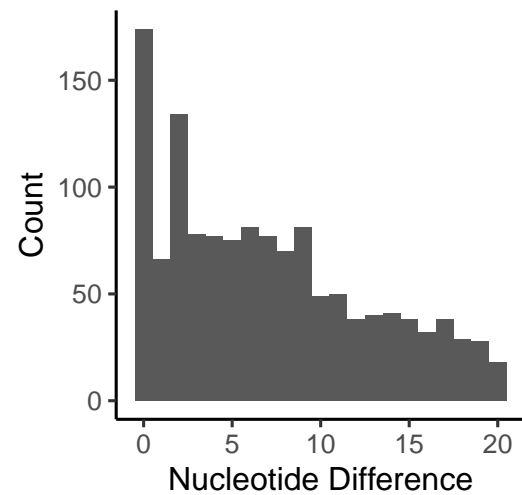
### IGHV2-5\*02

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



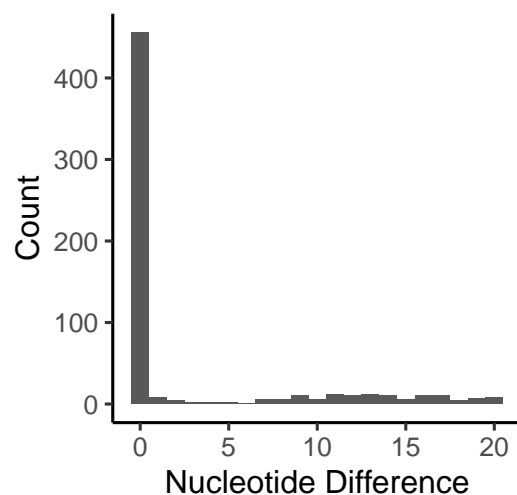
### IGHV3-7\*03

1373 sequences assigned  
174 (12.7%) exact matches, in which:  
173 unique CDR3  
6 unique J



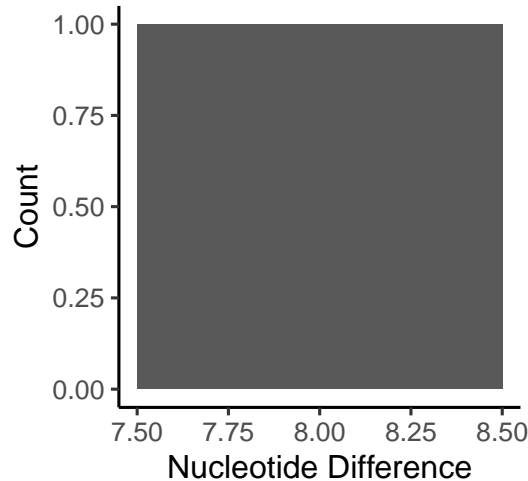
### IGHV1-69\*06\_14

624 sequences assigned  
456 (73.1%) exact matches, in which:  
455 unique CDR3  
6 unique J



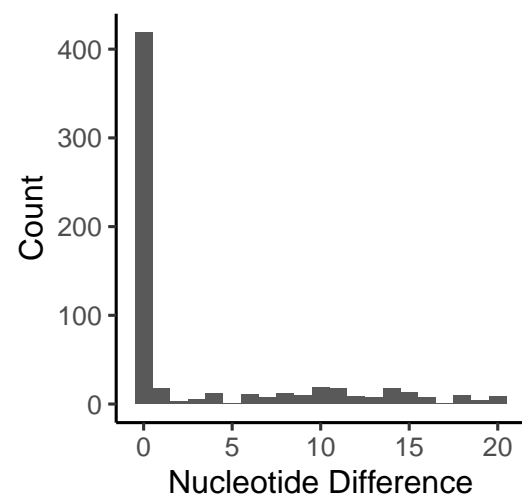
### IGHV2-70\*16\_17

1 sequences assigned  
No exact matches.



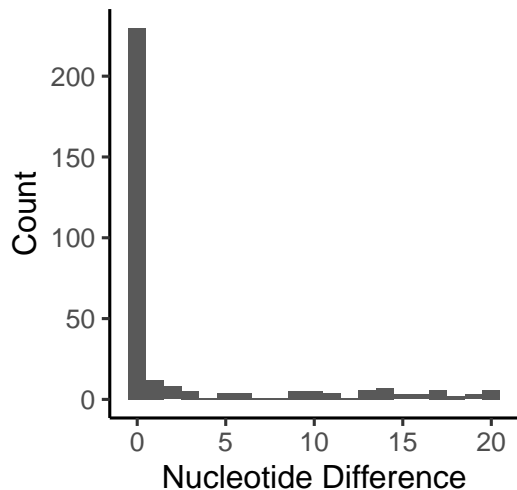
### IGHV3-9\*01

644 sequences assigned  
419 (65.1%) exact matches, in which:  
419 unique CDR3  
6 unique J



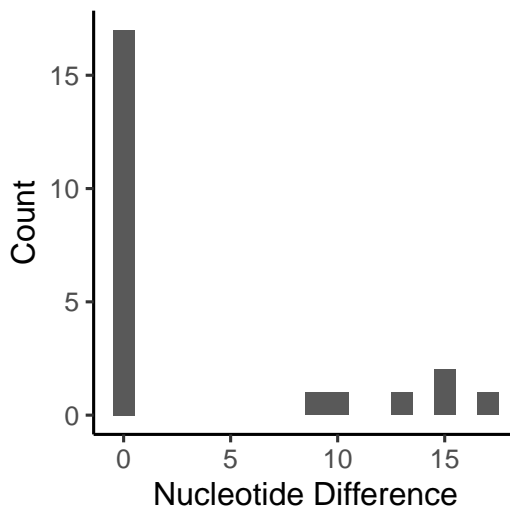
### IGHV3-11\*01

349 sequences assigned  
230 (65.9%) exact matches, in which:  
230 unique CDR3  
6 unique J



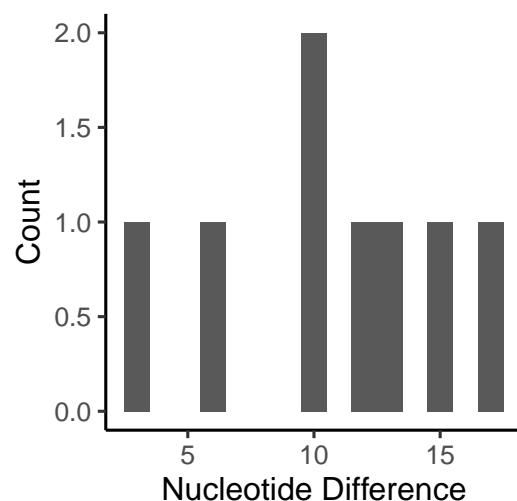
### IGHV3-13\*05

23 sequences assigned  
17 (73.9%) exact matches, in which:  
17 unique CDR3  
4 unique J



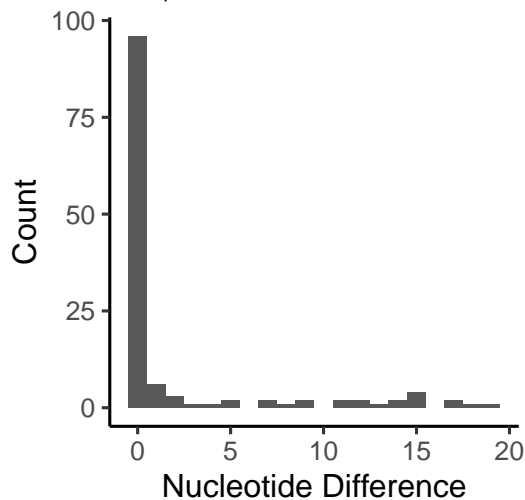
### IGHV3-20\*03\_04

9 sequences assigned  
No exact matches.



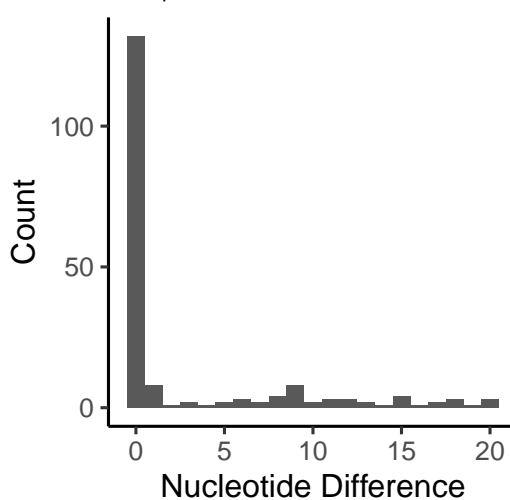
### IGHV3-11\*06

141 sequences assigned  
96 (68.1%) exact matches, in which:  
95 unique CDR3  
6 unique J



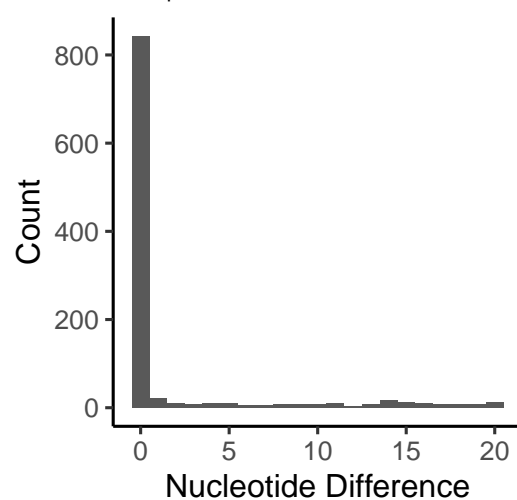
### IGHV3-15\*01\_02

205 sequences assigned  
132 (64.4%) exact matches, in which:  
132 unique CDR3  
6 unique J



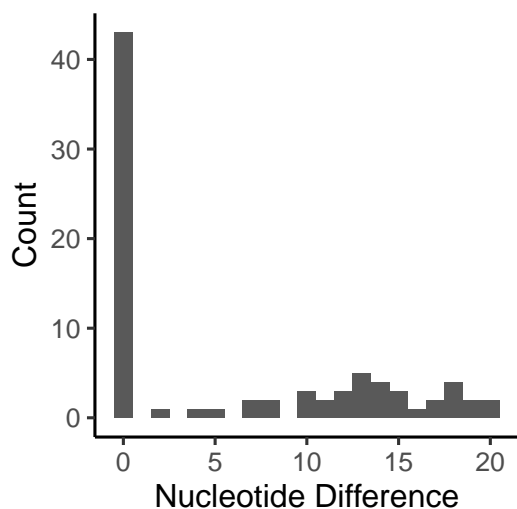
### IGHV3-21\*01\_02

1111 sequences assigned  
843 (75.9%) exact matches, in which:  
843 unique CDR3  
6 unique J



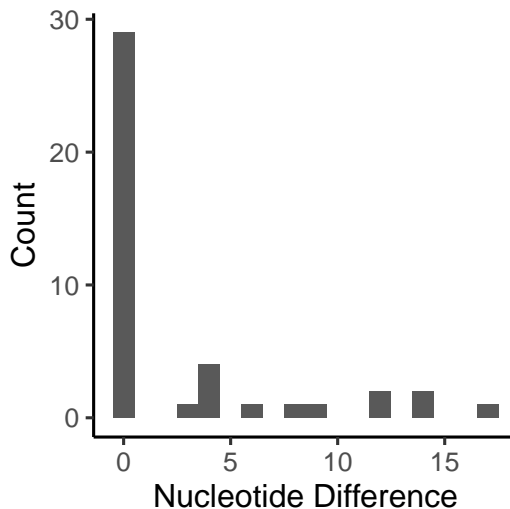
### IGHV3-13\*01

88 sequences assigned  
43 (48.9%) exact matches, in which:  
43 unique CDR3  
5 unique J



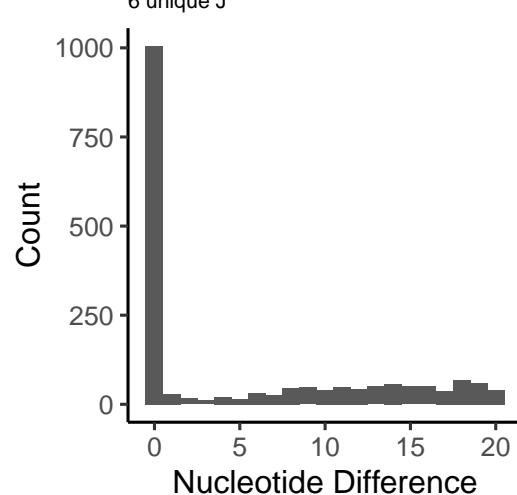
### IGHV3-20\*01\_02

47 sequences assigned  
29 (61.7%) exact matches, in which:  
29 unique CDR3  
6 unique J



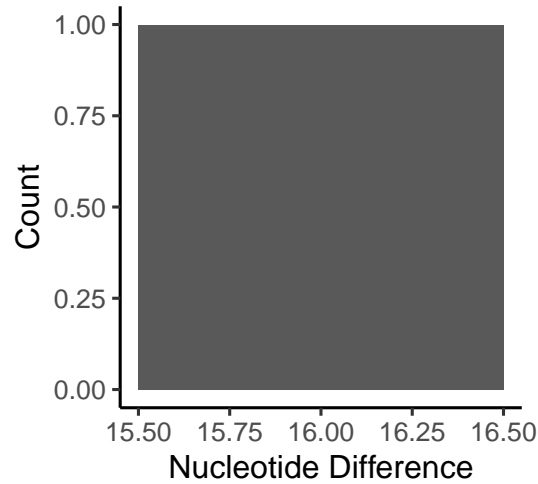
### IGHV3-23\*01\_04

2088 sequences assigned  
1005 (48.1%) exact matches, in which:  
1005 unique CDR3  
6 unique J



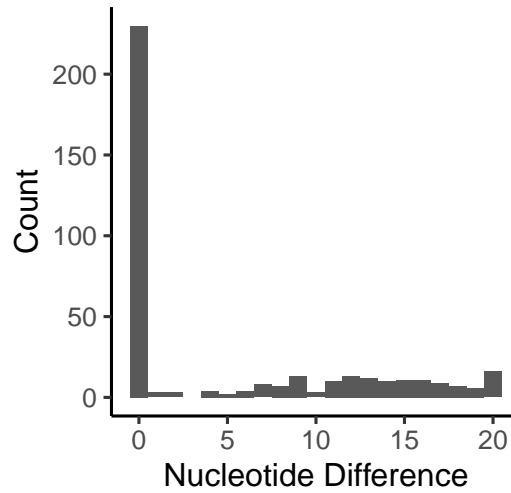
### IGHV3–30\*03

1 sequences assigned  
No exact matches.



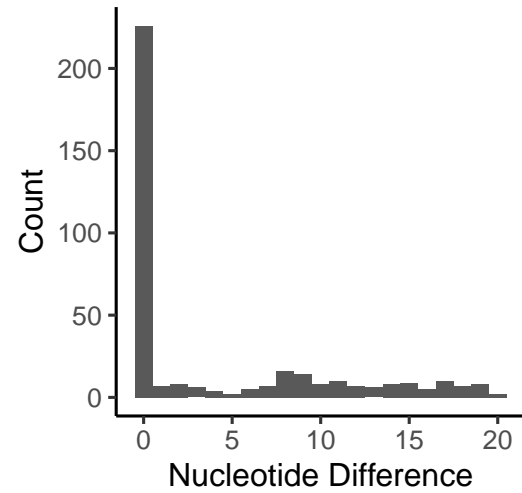
### IGHV3–33\*08

417 sequences assigned  
230 (55.2%) exact matches, in which:  
230 unique CDR3  
6 unique J



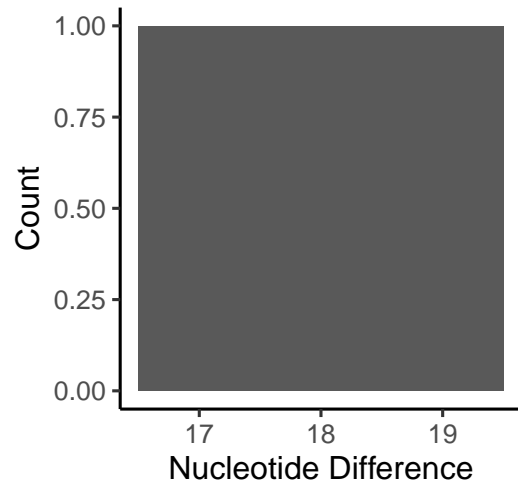
### IGHV3–48\*04

403 sequences assigned  
226 (56.1%) exact matches, in which:  
225 unique CDR3  
6 unique J



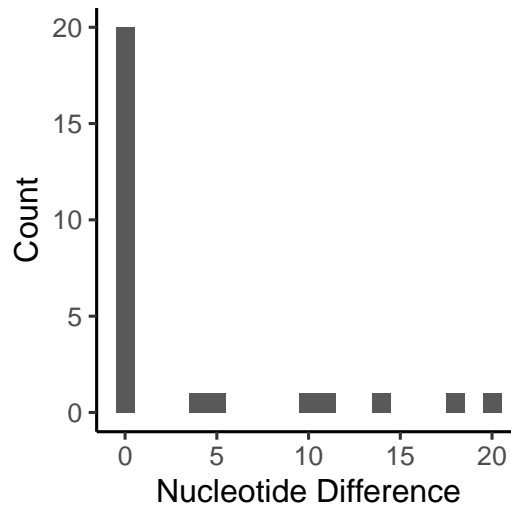
### IGHV3–30\*12

3 sequences assigned  
No exact matches.



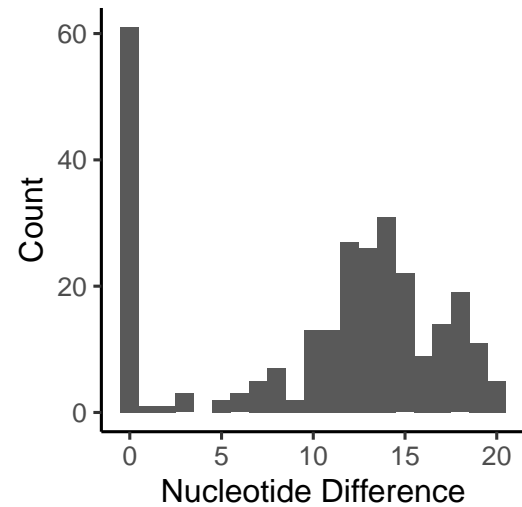
### IGHV3–43\*01

32 sequences assigned  
20 (62.5%) exact matches, in which:  
20 unique CDR3  
4 unique J



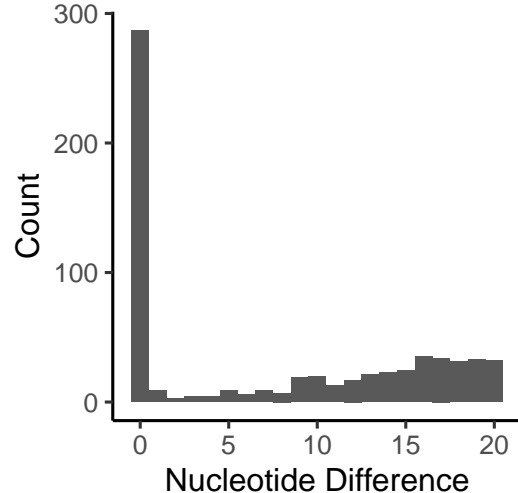
### IGHV3–49\*04

293 sequences assigned  
61 (20.8%) exact matches, in which:  
61 unique CDR3  
5 unique J



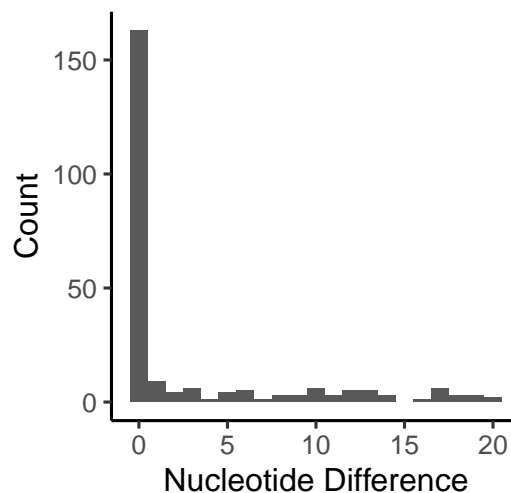
### IGHV3–33\*01

772 sequences assigned  
287 (37.2%) exact matches, in which:  
287 unique CDR3  
6 unique J



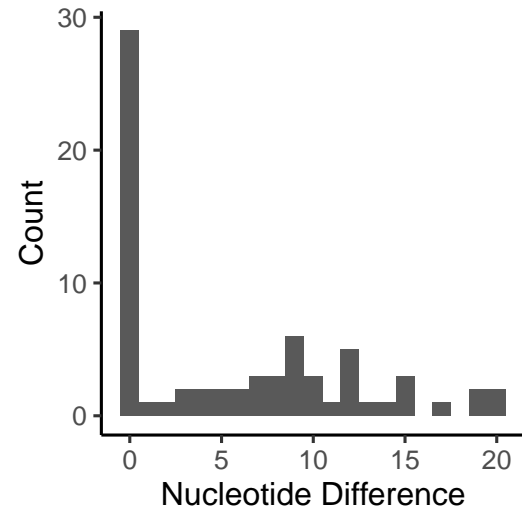
### IGHV3–48\*01

262 sequences assigned  
163 (62.2%) exact matches, in which:  
163 unique CDR3  
6 unique J



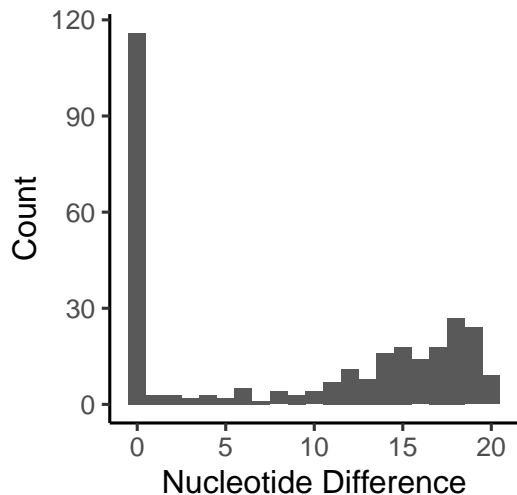
### IGHV3–49\*03\_05

75 sequences assigned  
29 (38.7%) exact matches, in which:  
29 unique CDR3  
5 unique J



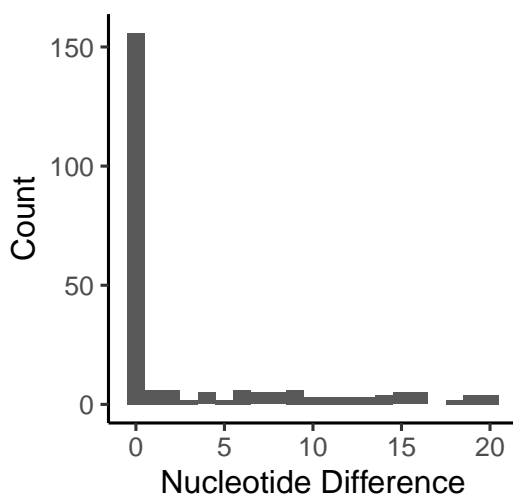
### IGHV3-53\*01\_02

324 sequences assigned  
116 (35.8%) exact matches, in which:  
116 unique CDR3  
6 unique J



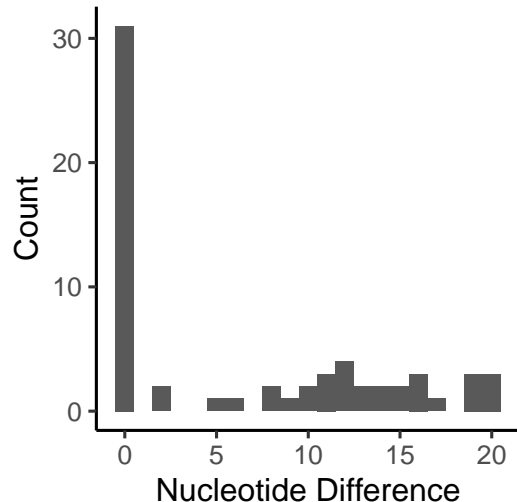
### IGHV3-66\*01

250 sequences assigned  
156 (62.4%) exact matches, in which:  
156 unique CDR3  
6 unique J



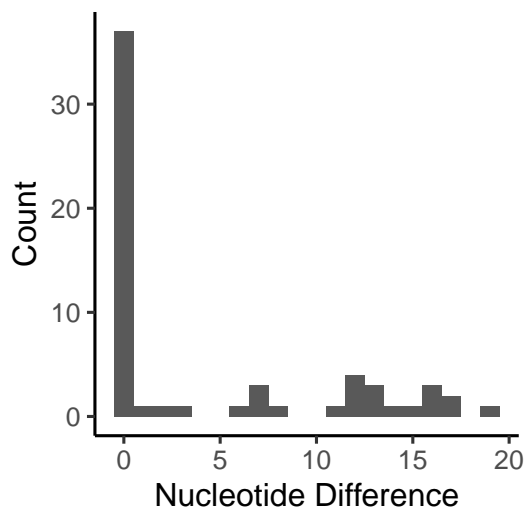
### IGHV3-73\*01\_02

64 sequences assigned  
31 (48.4%) exact matches, in which:  
31 unique CDR3  
4 unique J



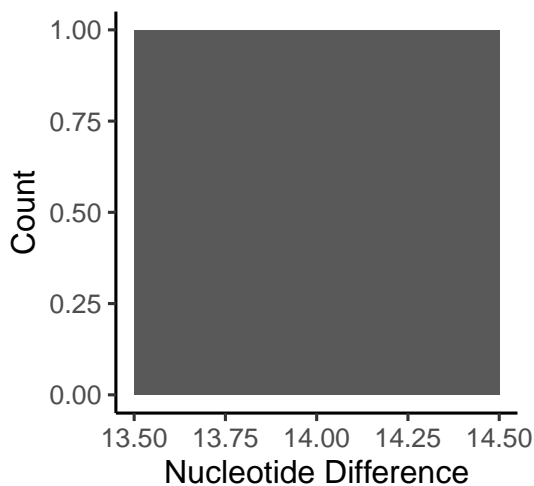
### IGHV3-64\*01

70 sequences assigned  
37 (52.9%) exact matches, in which:  
37 unique CDR3  
5 unique J



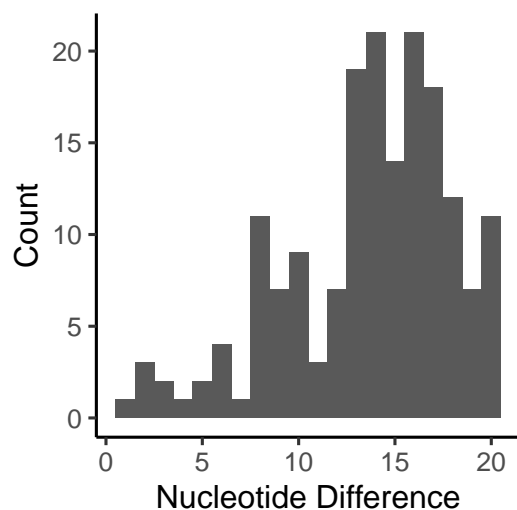
### IGHV3-69-1\*01

6 sequences assigned  
No exact matches.



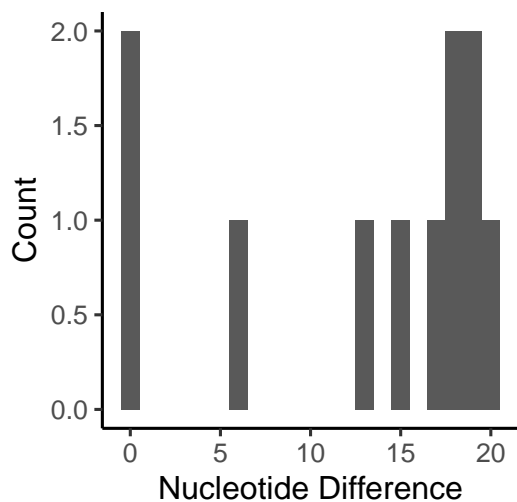
### IGHV3-74\*03

232 sequences assigned  
No exact matches.



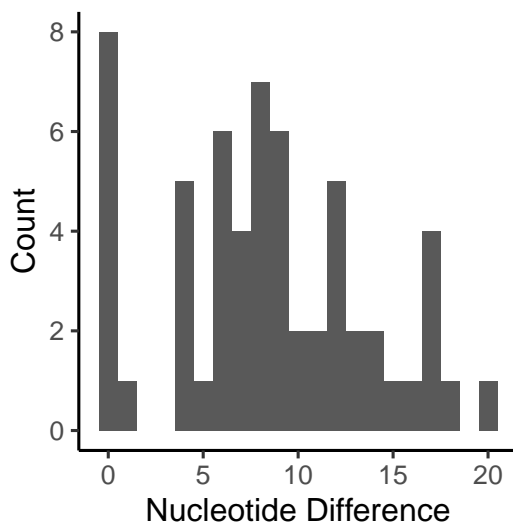
### IGHV3-64\*02\_07

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



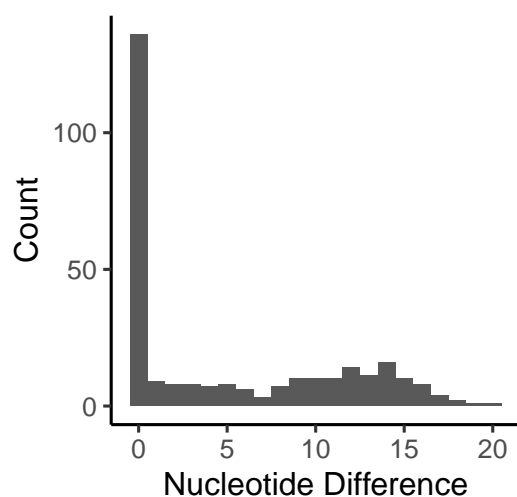
### IGHV3-72\*01

66 sequences assigned  
8 (12.1%) exact matches, in which:  
8 unique CDR3  
3 unique J



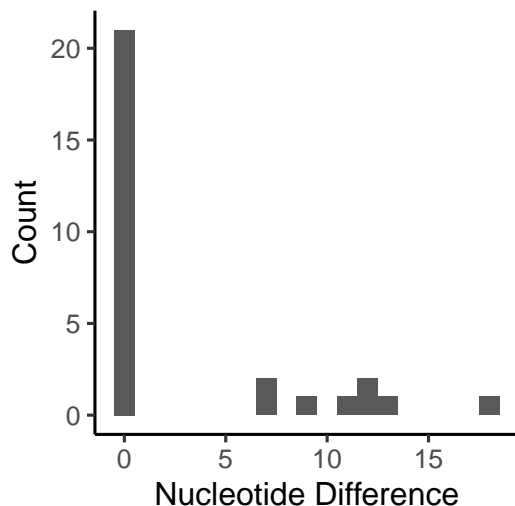
### IGHV3-74\*01\_02

307 sequences assigned  
136 (44.3%) exact matches, in which:  
135 unique CDR3  
6 unique J



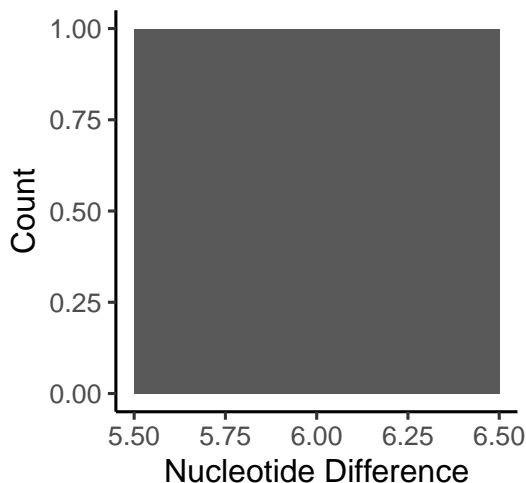
### IGHV3-43D\*04

29 sequences assigned  
21 (72.4%) exact matches, in which:  
21 unique CDR3  
4 unique J



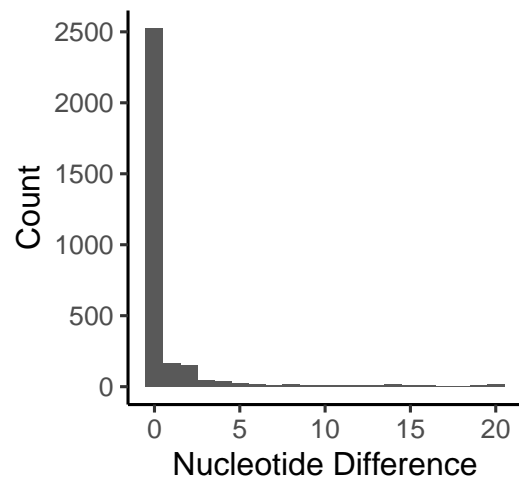
### IGHV4-28\*03

2 sequences assigned  
No exact matches.



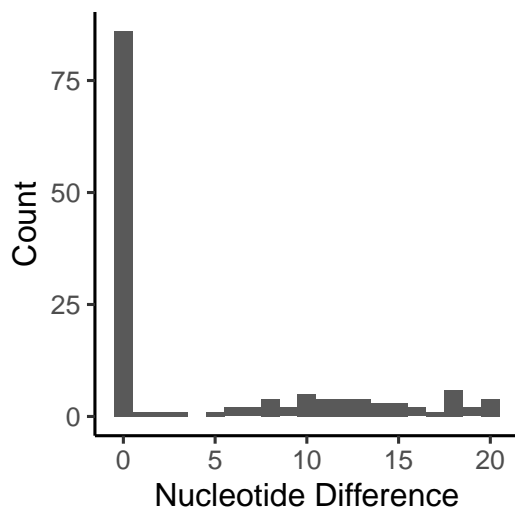
### IGHV4-34\*01\_02

3215 sequences assigned  
2524 (78.5%) exact matches, in which:  
2500 unique CDR3  
6 unique J



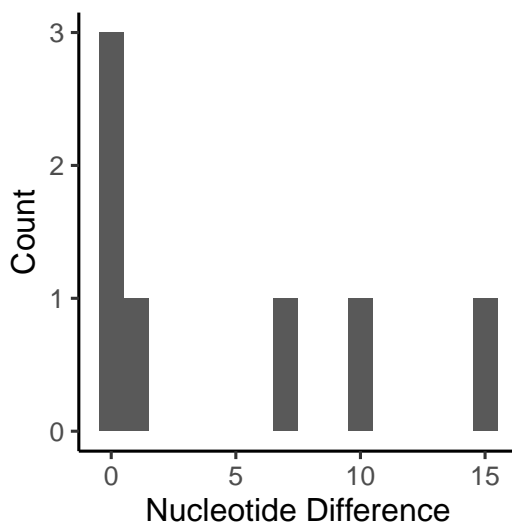
### IGHV3-64D\*06

149 sequences assigned  
86 (57.7%) exact matches, in which:  
84 unique CDR3  
6 unique J



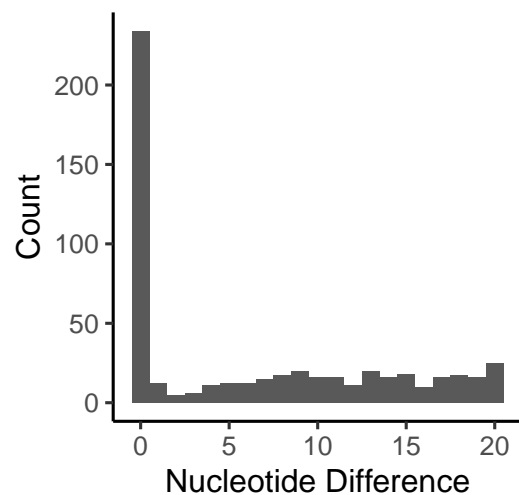
### IGHV4-28\*01\_07

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



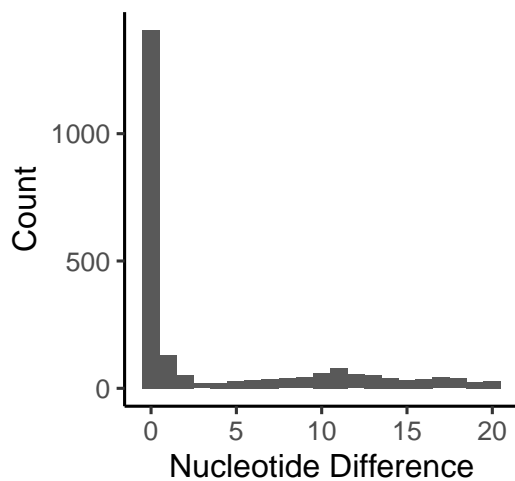
### IGHV4-38-2\*02\_A70G

734 sequences assigned  
234 (31.9%) exact matches, in which:  
233 unique CDR3  
6 unique J



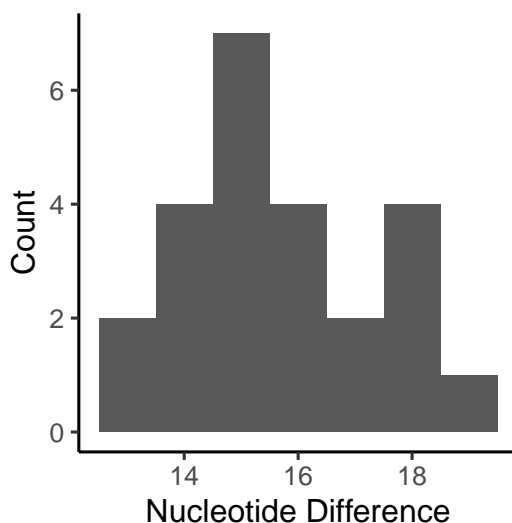
### IGHV4-4\*07

2478 sequences assigned  
1407 (56.8%) exact matches, in which:  
1382 unique CDR3  
6 unique J



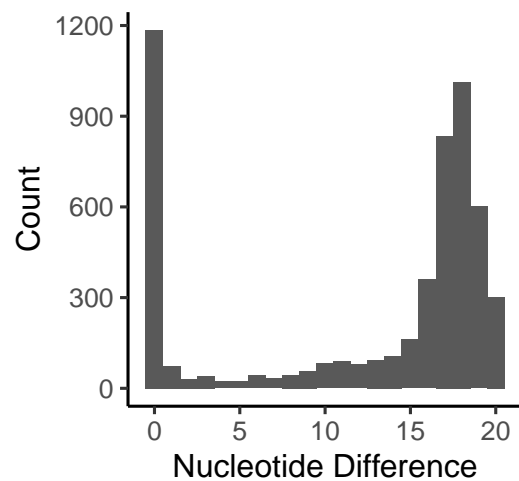
### IGHV4-30-2\*03

25 sequences assigned  
No exact matches.



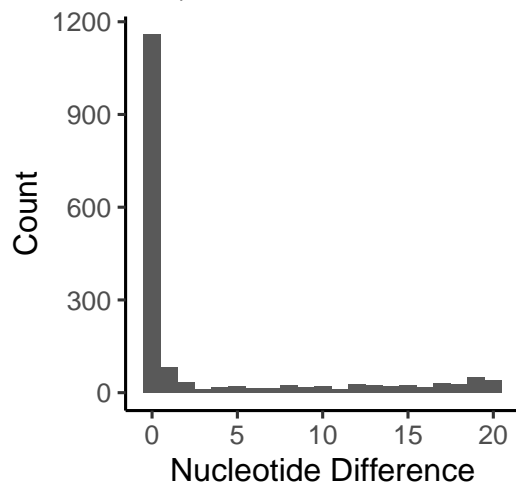
### IGHV4-39\*02\_C258G

5702 sequences assigned  
1185 (20.8%) exact matches, in which:  
1176 unique CDR3  
6 unique J



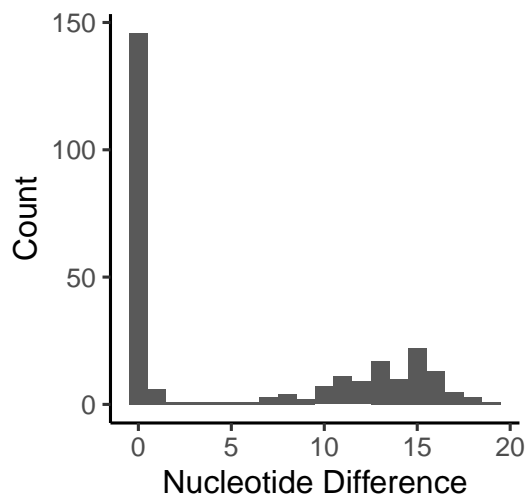
### IGHV4-59\*08

2043 sequences assigned  
1159 (56.7%) exact matches, in which:  
1146 unique CDR3  
6 unique J



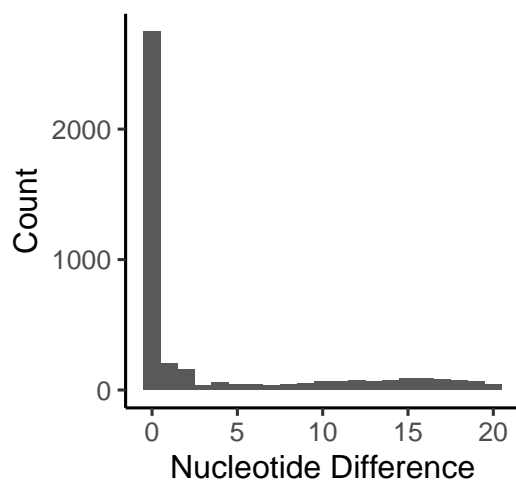
### IGHV5-10-1\*01\_03

272 sequences assigned  
146 (53.7%) exact matches, in which:  
146 unique CDR3  
6 unique J



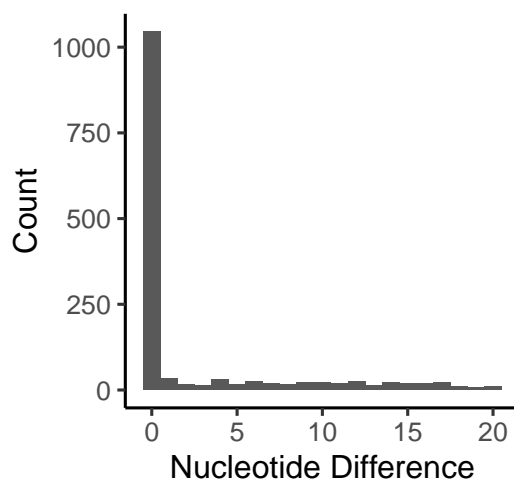
### IGHV4-59\*02\_G88A

4457 sequences assigned  
2747 (61.6%) exact matches, in which:  
2687 unique CDR3  
6 unique J



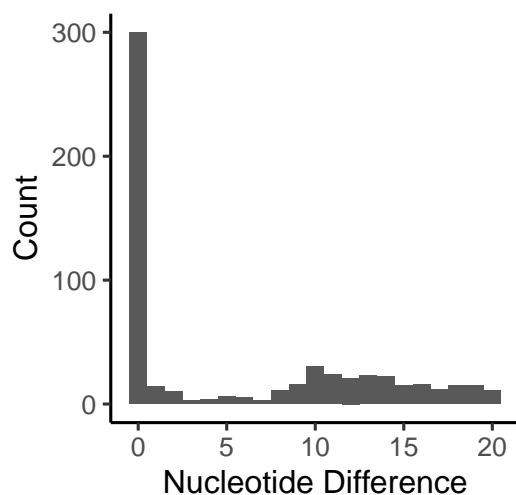
### IGHV5-51\*07\_A128G

1508 sequences assigned  
1045 (69.3%) exact matches, in which:  
1043 unique CDR3  
6 unique J



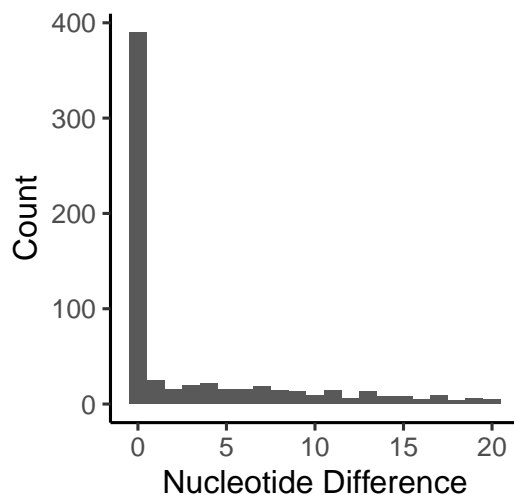
### IGHV4-61\*01

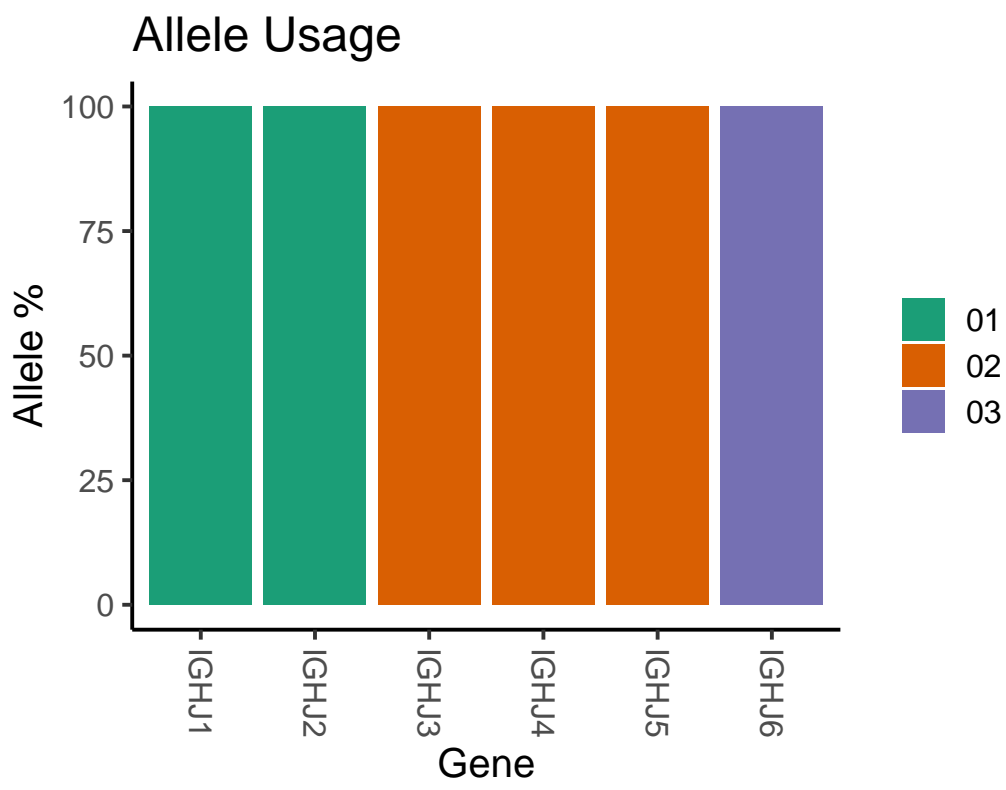
632 sequences assigned  
300 (47.5%) exact matches, in which:  
300 unique CDR3  
6 unique J



### IGHV6-1\*01\_02

645 sequences assigned  
390 (60.5%) exact matches, in which:  
386 unique CDR3  
5 unique J







Warning – no inferred sequences found.