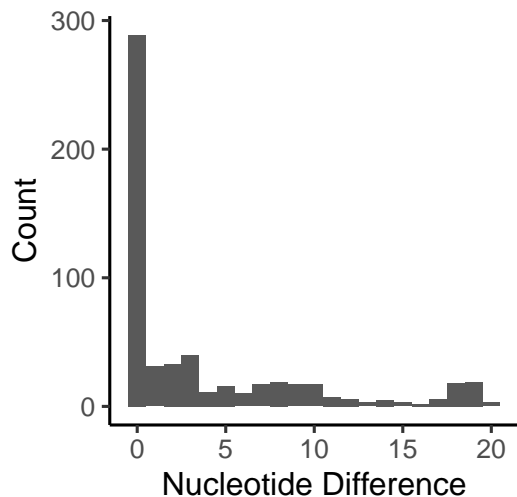


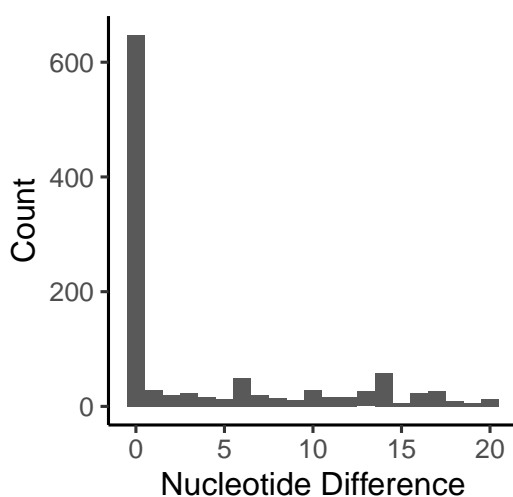
### IGHV1-2\*04

649 sequences assigned  
289 (44.5%) exact matches, in which:  
282 unique CDR3  
6 unique J



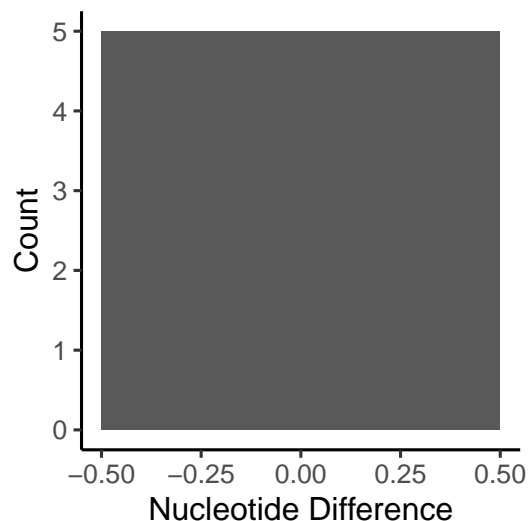
### IGHV1-18\*01

1190 sequences assigned  
648 (54.5%) exact matches, in which:  
635 unique CDR3  
6 unique J



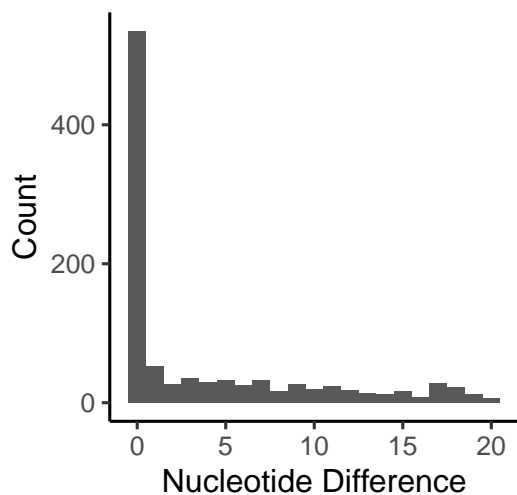
### IGHV1-45\*02

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



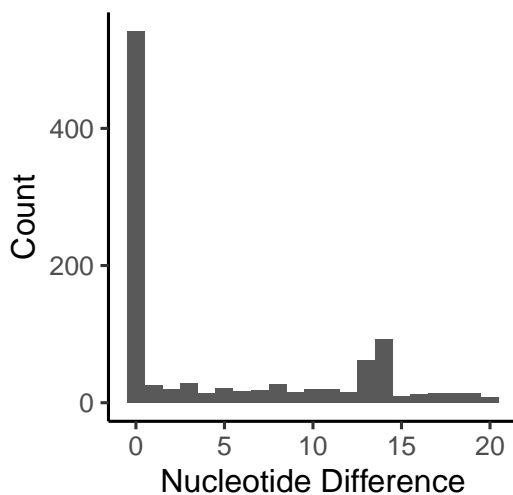
### IGHV1-3\*01\_05

1114 sequences assigned  
535 (48%) exact matches, in which:  
522 unique CDR3  
6 unique J



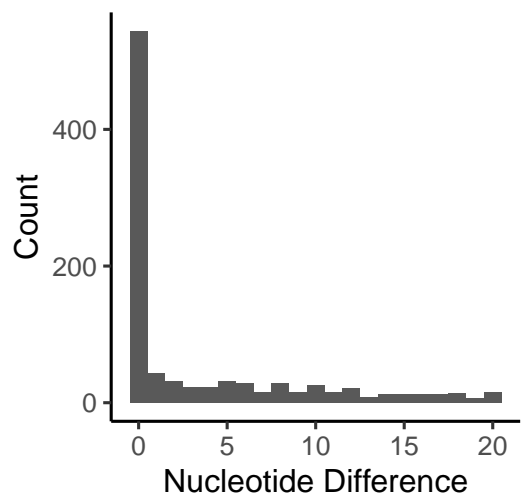
### IGHV1-18\*04

1077 sequences assigned  
542 (50.3%) exact matches, in which:  
535 unique CDR3  
6 unique J



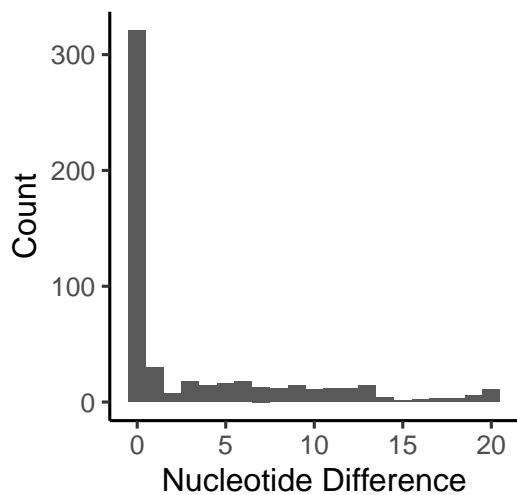
### IGHV1-46\*01

1101 sequences assigned  
544 (49.4%) exact matches, in which:  
531 unique CDR3  
6 unique J



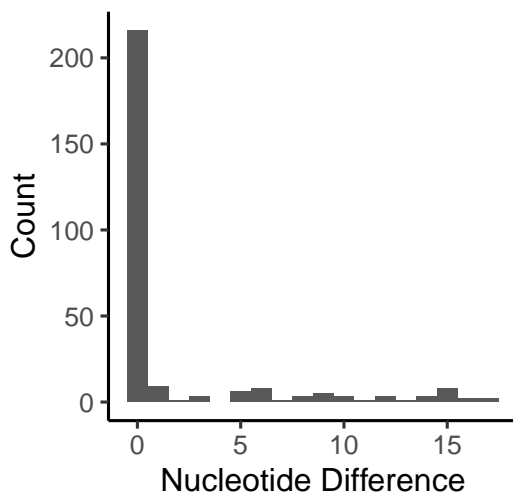
### IGHV1-8\*01

812 sequences assigned  
321 (39.5%) exact matches, in which:  
315 unique CDR3  
6 unique J



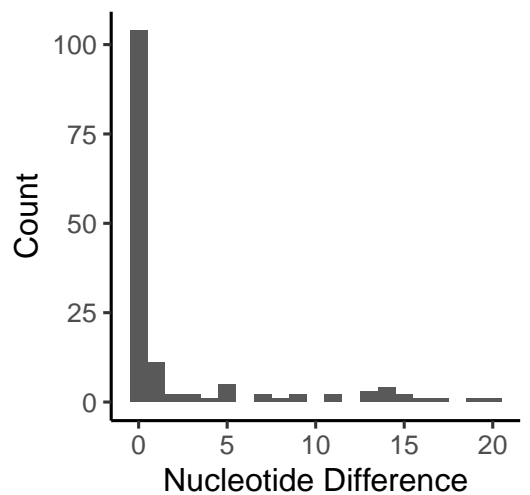
### IGHV1-24\*01

293 sequences assigned  
216 (73.7%) exact matches, in which:  
215 unique CDR3  
6 unique J



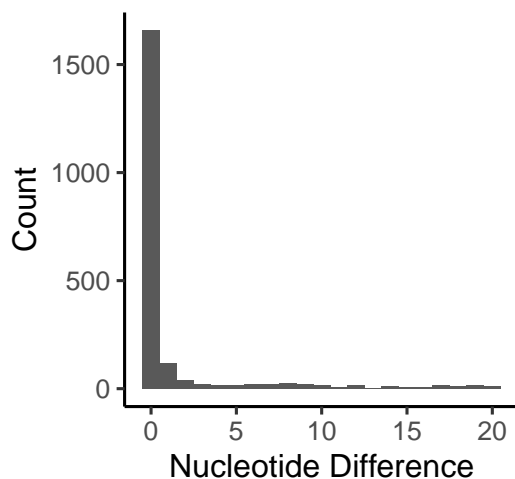
### IGHV1-58\*01\_03

163 sequences assigned  
104 (63.8%) exact matches, in which:  
104 unique CDR3  
5 unique J



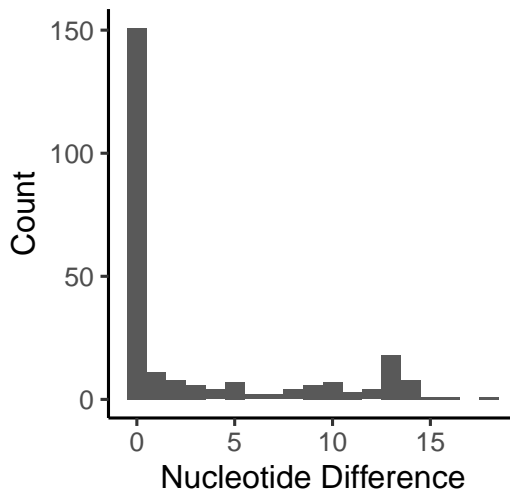
### IGHV1-69\*01\_12\_13

2220 sequences assigned  
1658 (74.7%) exact matches, in which:  
1637 unique CDR3  
6 unique J



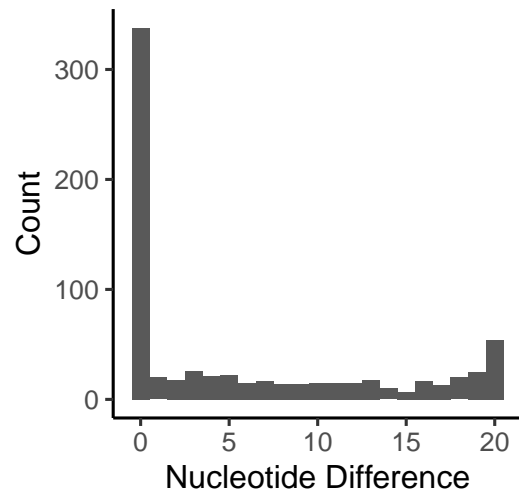
### IGHV2-70\*01

275 sequences assigned  
151 (54.9%) exact matches, in which:  
150 unique CDR3  
5 unique J



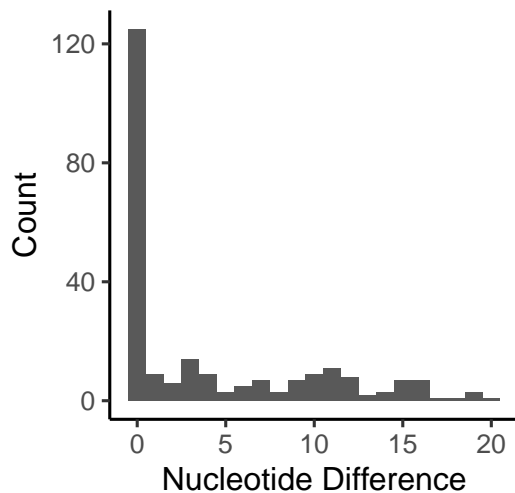
### IGHV3-9\*01

844 sequences assigned  
338 (40%) exact matches, in which:  
259 unique CDR3  
6 unique J



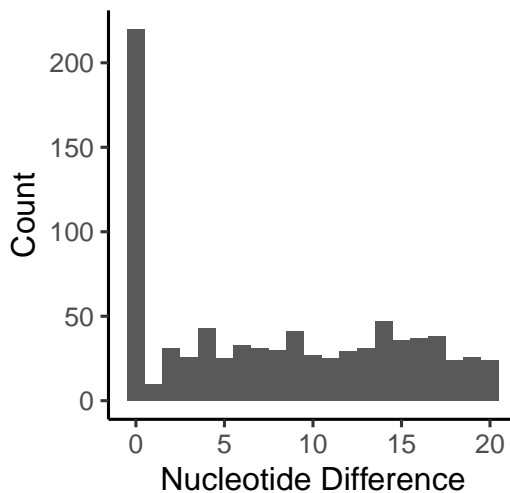
### IGHV2-5\*02

320 sequences assigned  
125 (39.1%) exact matches, in which:  
123 unique CDR3  
6 unique J



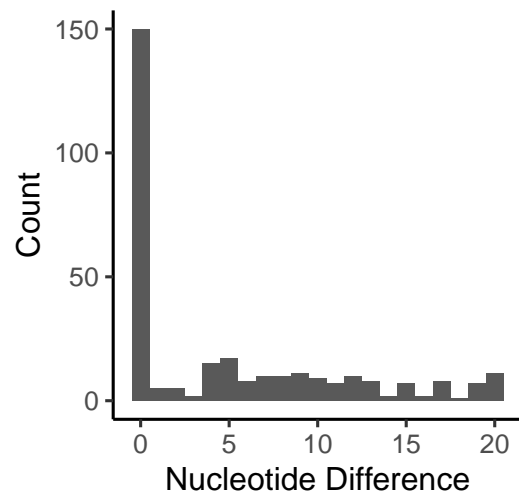
### IGHV3-7\*01

1038 sequences assigned  
220 (21.2%) exact matches, in which:  
154 unique CDR3  
6 unique J



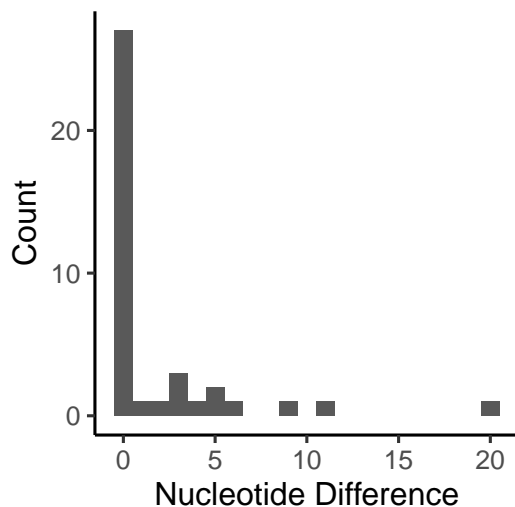
### IGHV3-11\*01

343 sequences assigned  
150 (43.7%) exact matches, in which:  
113 unique CDR3  
6 unique J



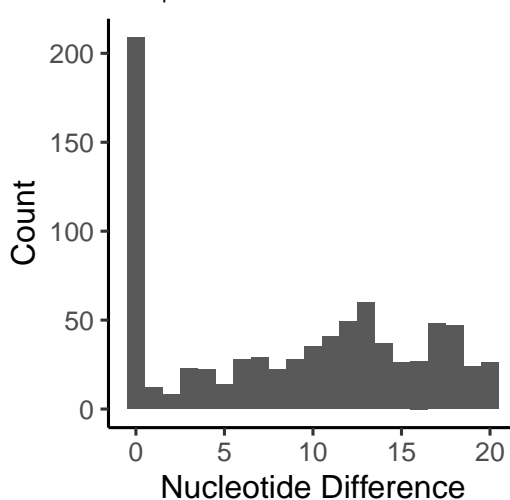
### IGHV2-26\*01

42 sequences assigned  
27 (64.3%) exact matches, in which:  
26 unique CDR3  
5 unique J



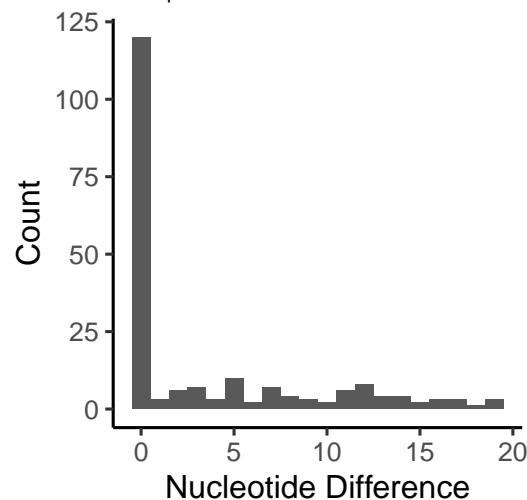
### IGHV3-7\*03

1149 sequences assigned  
209 (18.2%) exact matches, in which:  
153 unique CDR3  
6 unique J



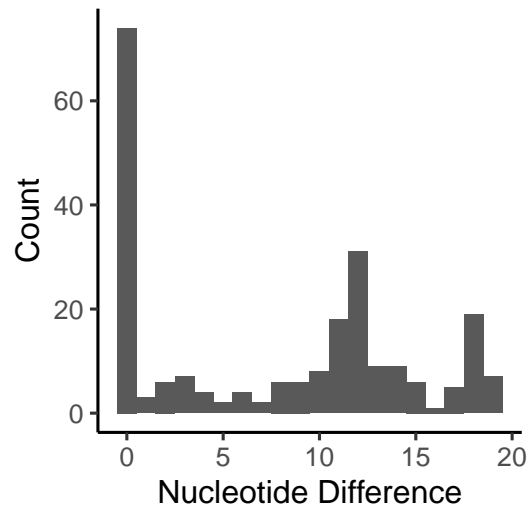
### IGHV3-11\*06

216 sequences assigned  
120 (55.6%) exact matches, in which:  
89 unique CDR3  
6 unique J



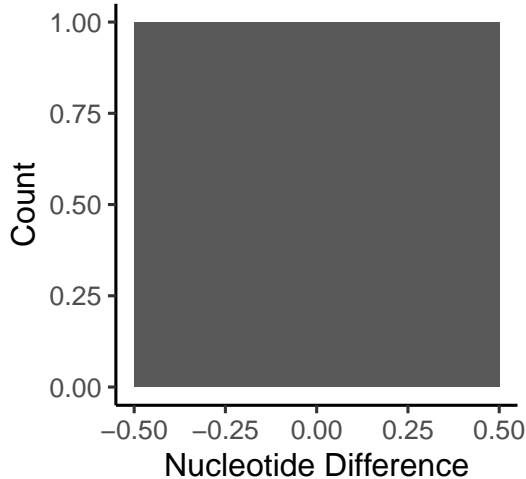
### IGHV3-13\*01

242 sequences assigned  
74 (30.6%) exact matches, in which:  
51 unique CDR3  
5 unique J



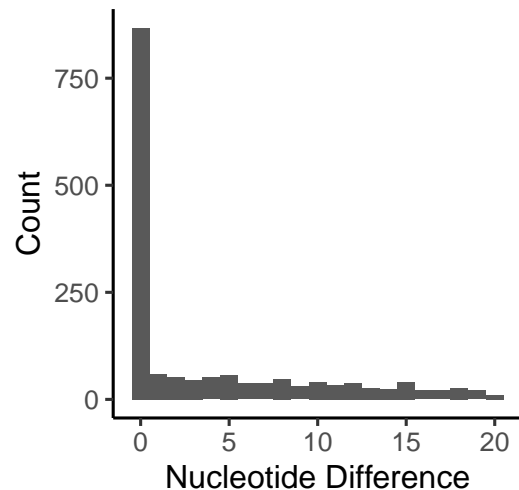
### IGHV3-19\*01

1 sequences assigned  
1 (100%) exact matches, in which:  
1 unique CDR3  
1 unique J



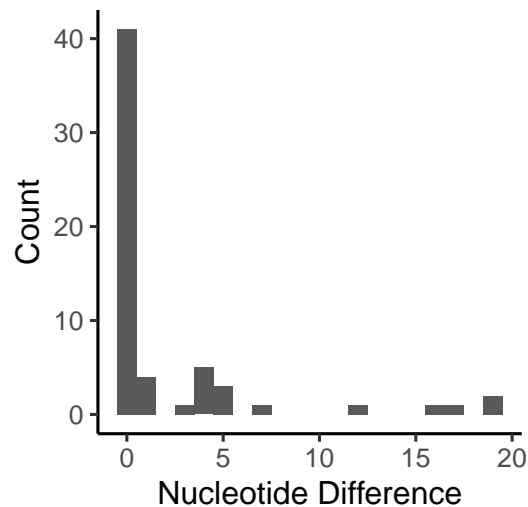
### IGHV3-21\*01\_02

1852 sequences assigned  
868 (46.9%) exact matches, in which:  
622 unique CDR3  
6 unique J



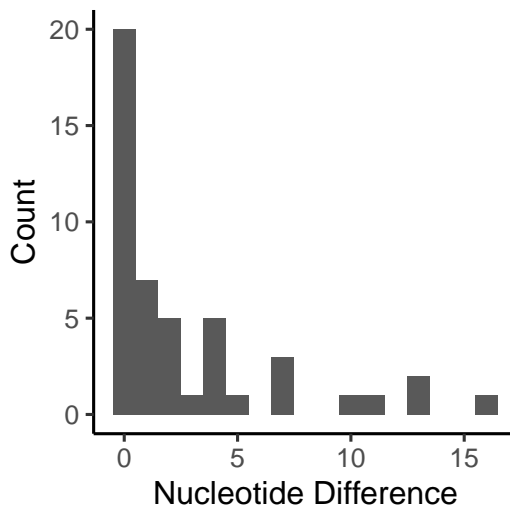
### IGHV3-13\*05

61 sequences assigned  
41 (67.2%) exact matches, in which:  
29 unique CDR3  
4 unique J



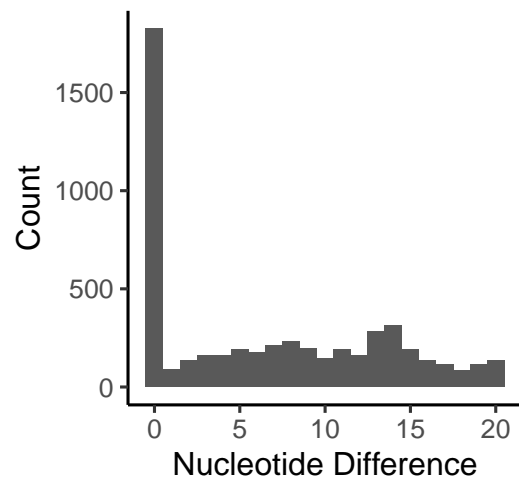
### IGHV3-20\*01\_02

47 sequences assigned  
20 (42.6%) exact matches, in which:  
18 unique CDR3  
4 unique J



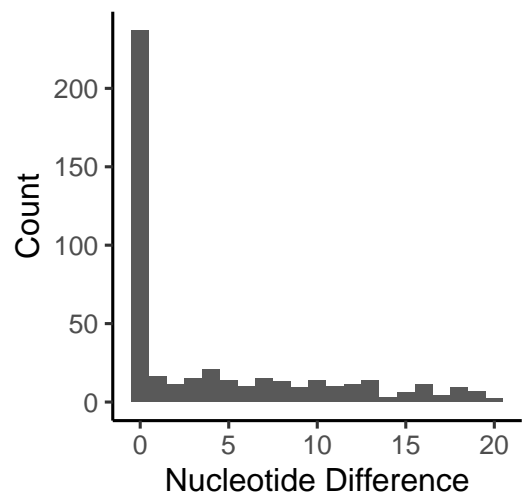
### IGHV3-23\*01\_04

6029 sequences assigned  
1825 (30.3%) exact matches, in which:  
1340 unique CDR3  
6 unique J



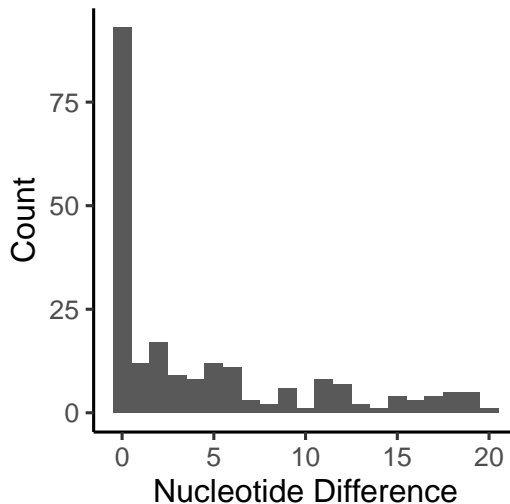
### IGHV3-15\*01\_02

493 sequences assigned  
237 (48.1%) exact matches, in which:  
186 unique CDR3  
6 unique J



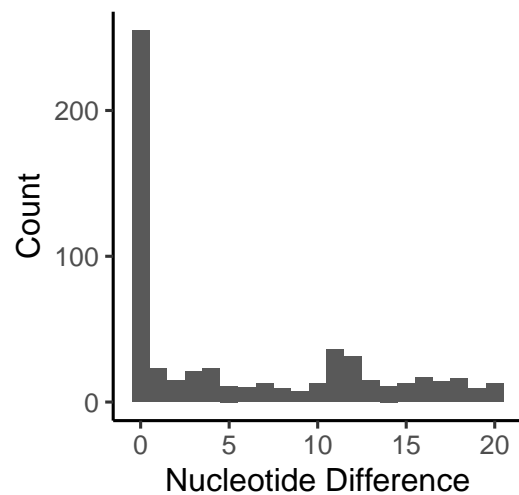
### IGHV3-20\*03\_04

230 sequences assigned  
93 (40.4%) exact matches, in which:  
67 unique CDR3  
5 unique J



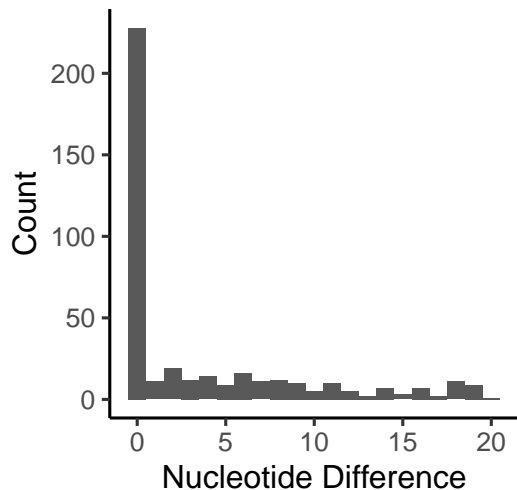
### IGHV3-33\*01

664 sequences assigned  
255 (38.4%) exact matches, in which:  
199 unique CDR3  
6 unique J



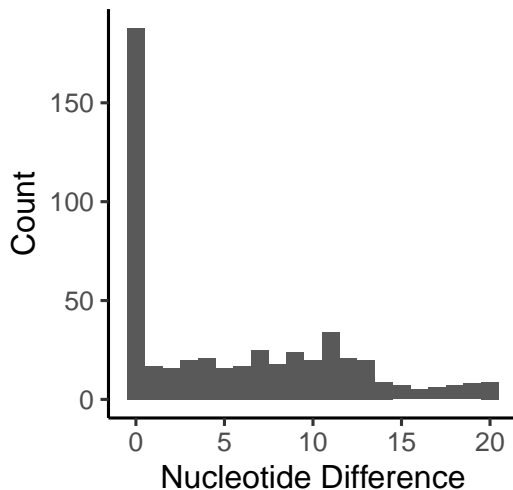
### IGHV3–33\*06

441 sequences assigned  
228 (51.7%) exact matches, in which:  
185 unique CDR3  
6 unique J



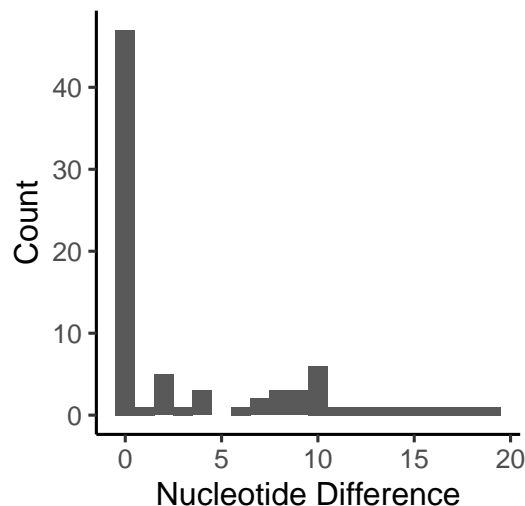
### IGHV3–48\*02

574 sequences assigned  
188 (32.8%) exact matches, in which:  
141 unique CDR3  
6 unique J



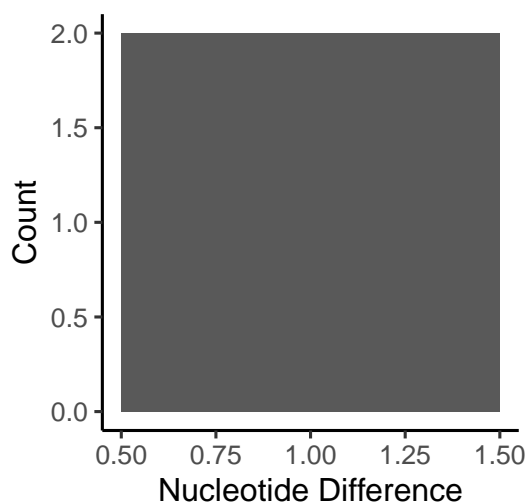
### IGHV3–49\*03\_05

88 sequences assigned  
47 (53.4%) exact matches, in which:  
39 unique CDR3  
4 unique J



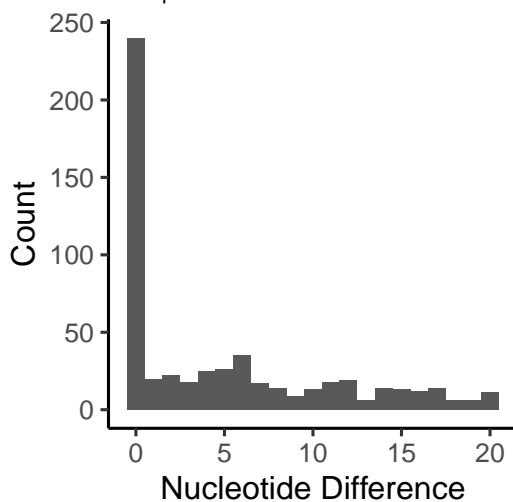
### IGHV3–35\*01

2 sequences assigned  
No exact matches.



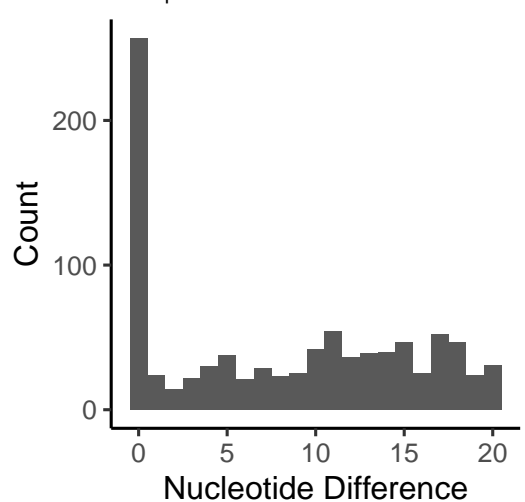
### IGHV3–48\*03

632 sequences assigned  
240 (38%) exact matches, in which:  
188 unique CDR3  
6 unique J



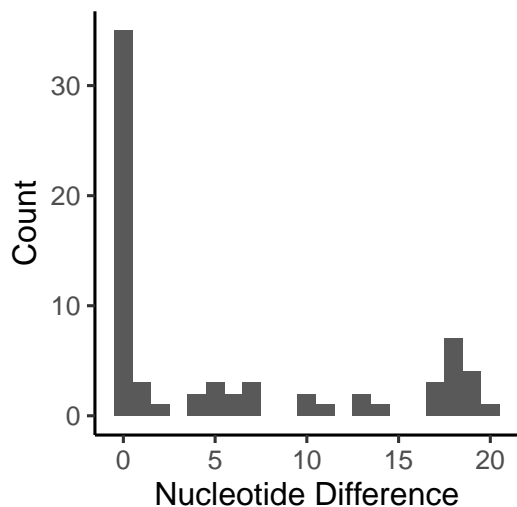
### IGHV3–53\*01\_02

1146 sequences assigned  
257 (22.4%) exact matches, in which:  
194 unique CDR3  
6 unique J



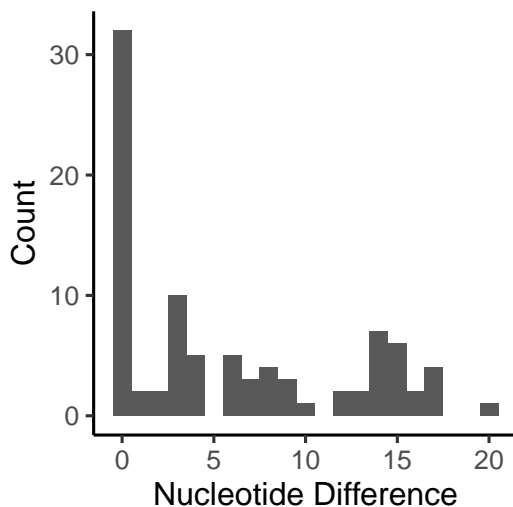
### IGHV3–43\*01

109 sequences assigned  
35 (32.1%) exact matches, in which:  
27 unique CDR3  
4 unique J



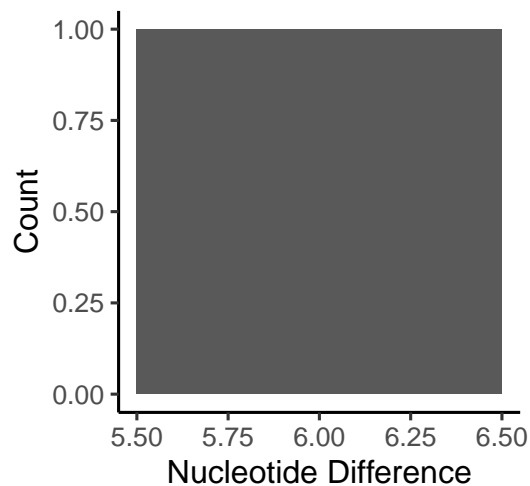
### IGHV3–49\*04

115 sequences assigned  
32 (27.8%) exact matches, in which:  
28 unique CDR3  
4 unique J



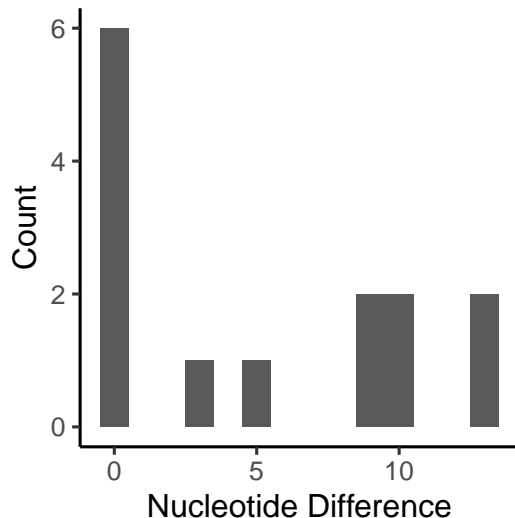
### IGHV3–64\*04

2 sequences assigned  
No exact matches.



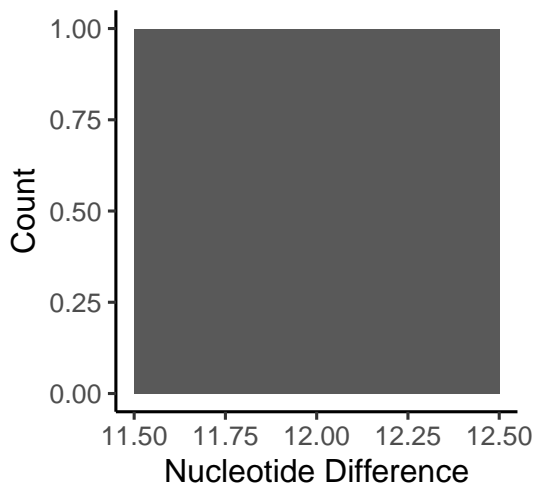
### IGHV3-64\*02\_07

17 sequences assigned  
6 (35.3%) exact matches, in which:  
5 unique CDR3  
2 unique J



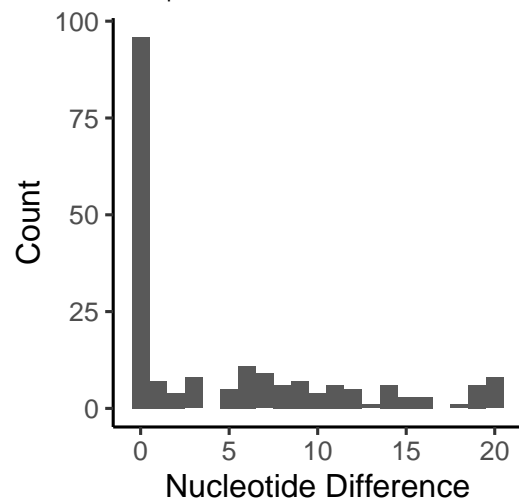
### IGHV3-66\*04

1 sequences assigned  
No exact matches.



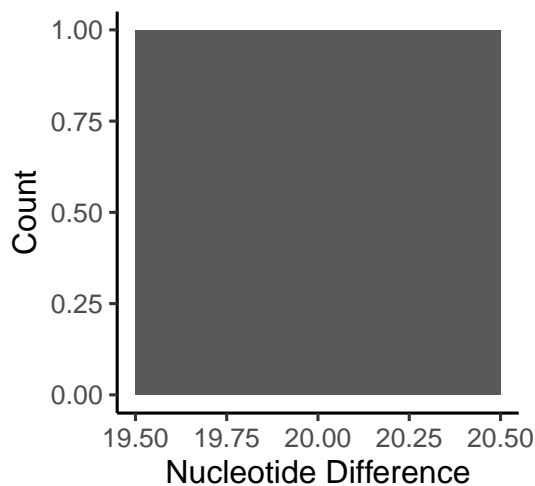
### IGHV3-73\*01\_02

222 sequences assigned  
96 (43.2%) exact matches, in which:  
70 unique CDR3  
5 unique J



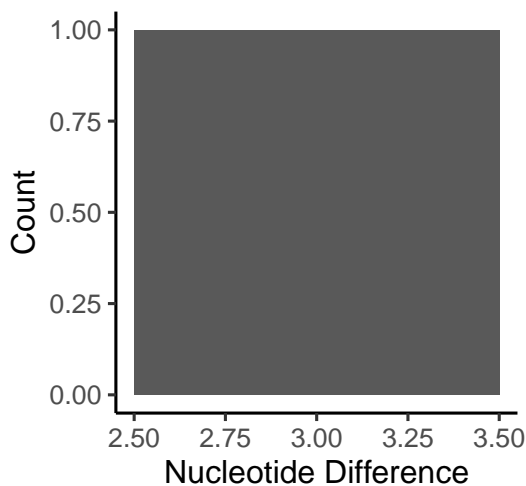
### IGHV3-66\*01

1 sequences assigned  
No exact matches.



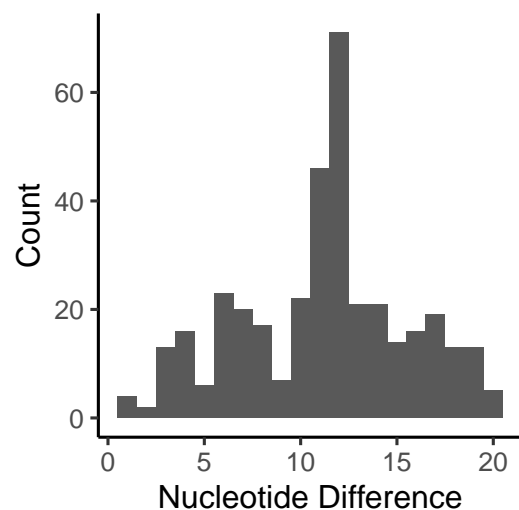
### IGHV3-69-1\*01

1 sequences assigned  
No exact matches.



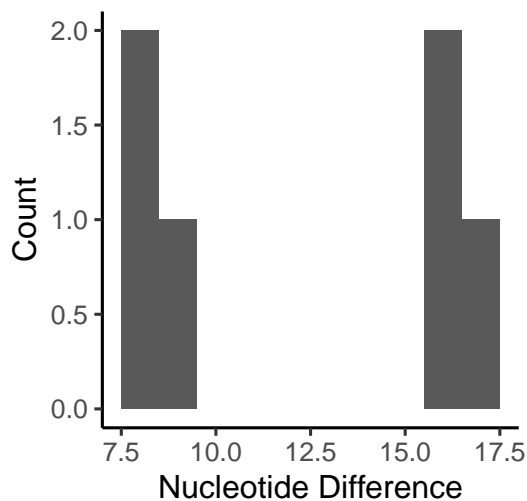
### IGHV3-74\*03

465 sequences assigned  
No exact matches.



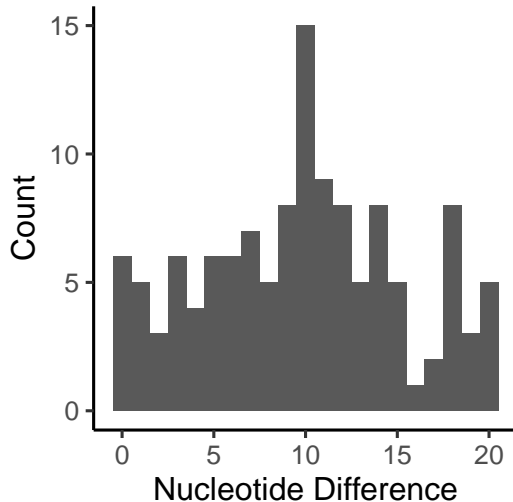
### IGHV3-66\*02

6 sequences assigned  
No exact matches.



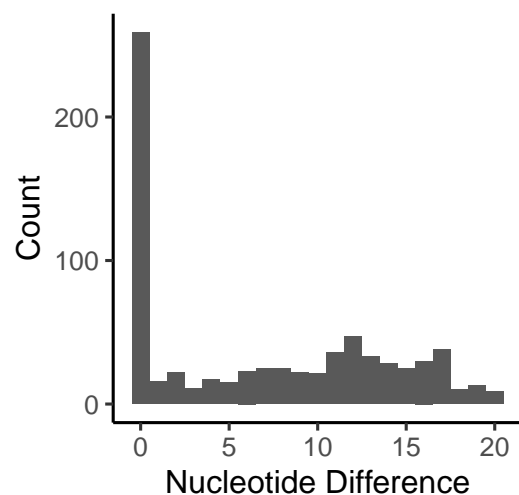
### IGHV3-72\*01

148 sequences assigned  
6 (4.1%) exact matches, in which:  
6 unique CDR3  
3 unique J



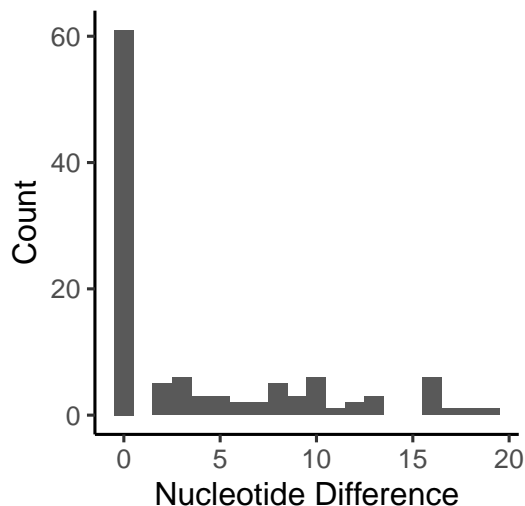
### IGHV3-74\*01\_02

794 sequences assigned  
259 (32.6%) exact matches, in which:  
177 unique CDR3  
6 unique J



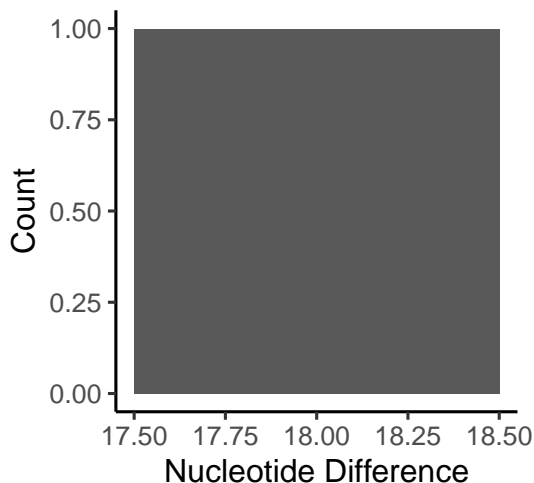
### IGHV3-64D\*06

142 sequences assigned  
61 (43%) exact matches, in which:  
45 unique CDR3  
4 unique J



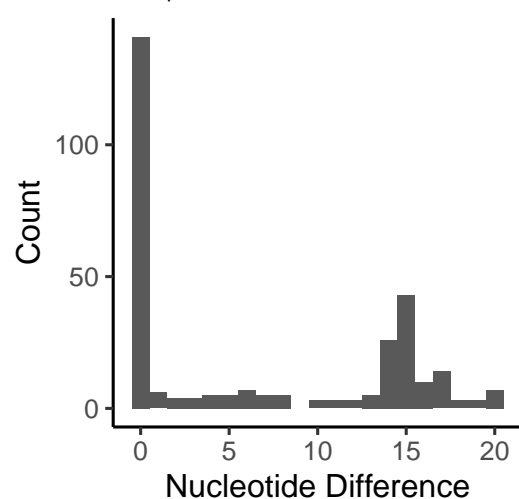
### IGHV4-30-4\*01

8 sequences assigned  
No exact matches.



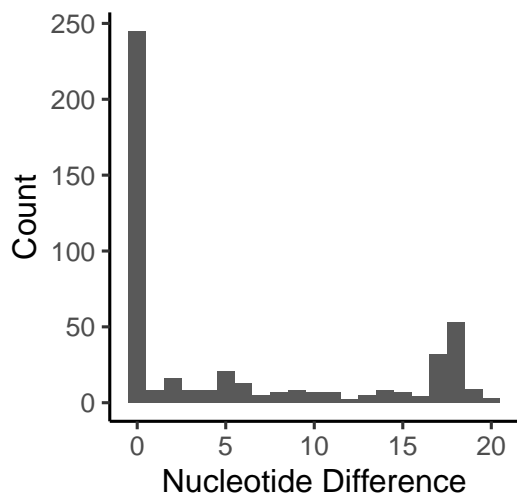
### IGHV4-31\*02\_C90T

483 sequences assigned  
141 (29.2%) exact matches, in which:  
141 unique CDR3  
5 unique J



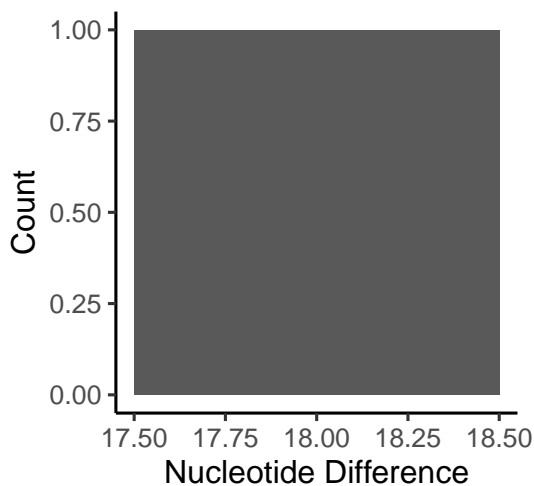
### IGHV4-4\*02\_03

544 sequences assigned  
245 (45%) exact matches, in which:  
235 unique CDR3  
6 unique J



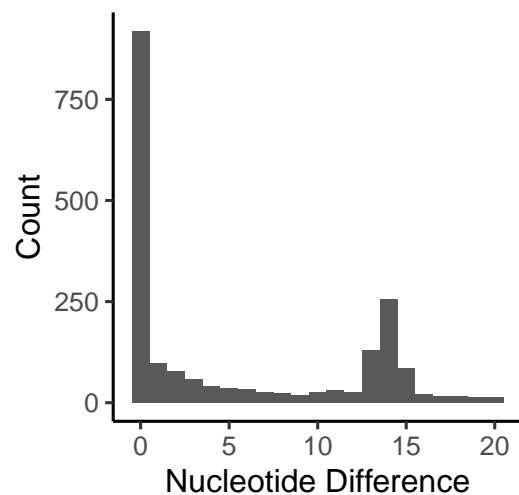
### IGHV4-30-2\*03

1 sequences assigned  
No exact matches.



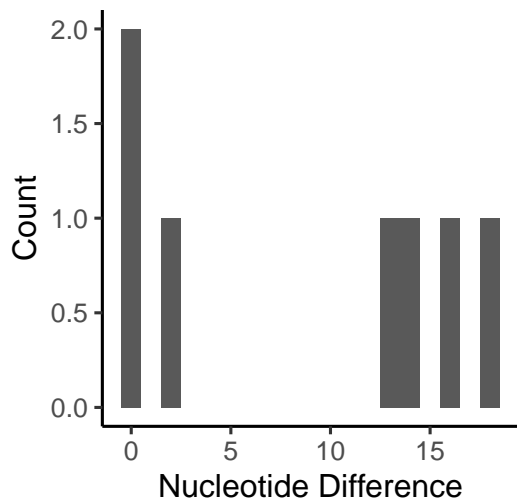
### IGHV4-34\*01\_02

2075 sequences assigned  
919 (44.3%) exact matches, in which:  
873 unique CDR3  
6 unique J



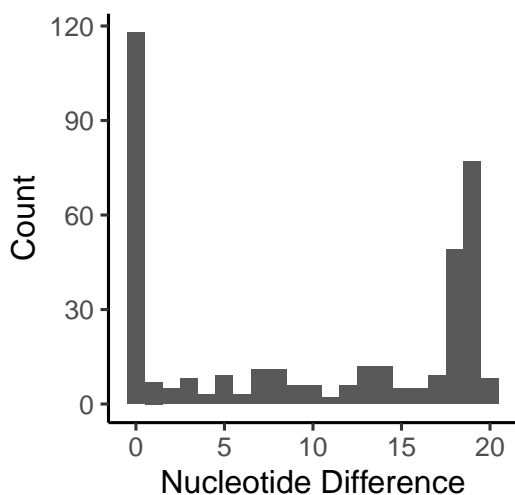
### IGHV4-28\*01\_07

11 sequences assigned  
2 (18.2%) exact matches, in which:  
2 unique CDR3  
2 unique J



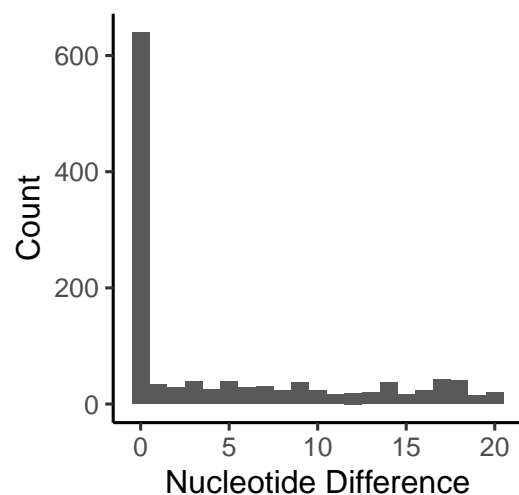
### IGHV4-31\*02

408 sequences assigned  
118 (28.9%) exact matches, in which:  
117 unique CDR3  
6 unique J



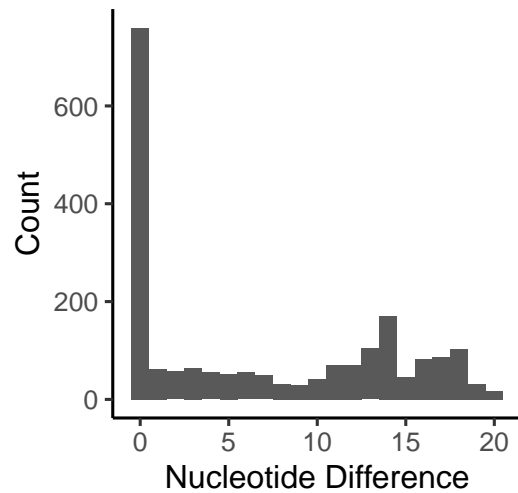
### IGHV4-39\*02\_C258G

1438 sequences assigned  
640 (44.5%) exact matches, in which:  
622 unique CDR3  
6 unique J



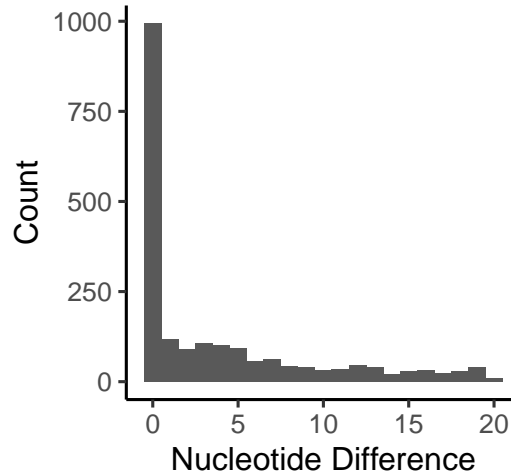
### IGHV4–59\*02\_G88A

2520 sequences assigned  
760 (30.2%) exact matches, in which:  
749 unique CDR3  
6 unique J



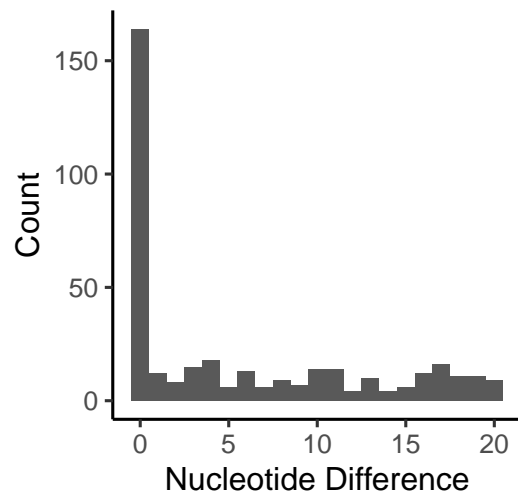
### IGHV5–51\*07\_A128G

2189 sequences assigned  
994 (45.4%) exact matches, in which:  
852 unique CDR3  
6 unique J



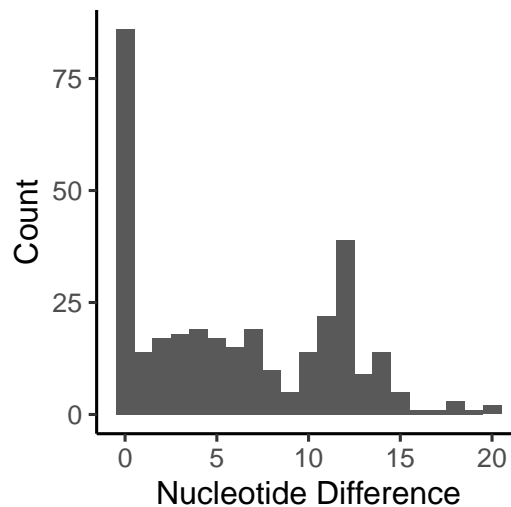
### IGHV4–61\*01

481 sequences assigned  
164 (34.1%) exact matches, in which:  
158 unique CDR3  
6 unique J



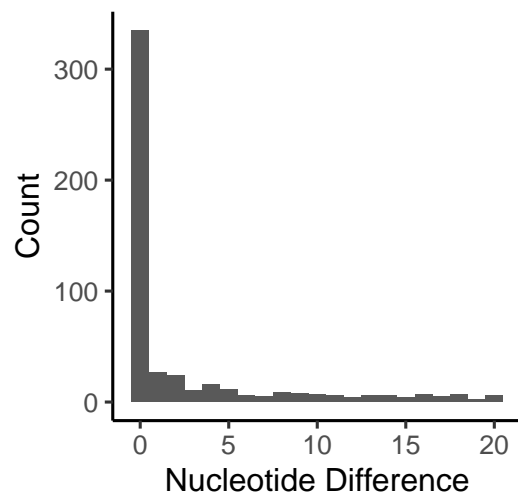
### IGHV6–1\*01\_02

370 sequences assigned  
86 (23.2%) exact matches, in which:  
84 unique CDR3  
5 unique J



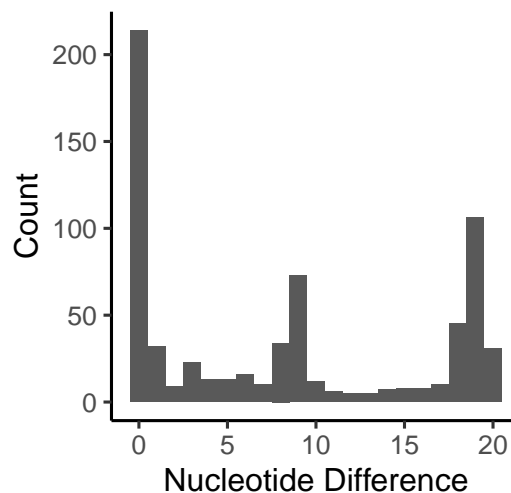
### IGHV5–10–1\*01\_03

567 sequences assigned  
335 (59.1%) exact matches, in which:  
295 unique CDR3  
6 unique J



### IGHV7–4–1\*02

726 sequences assigned  
214 (29.5%) exact matches, in which:  
213 unique CDR3  
6 unique J







Warning – no inferred sequences found.