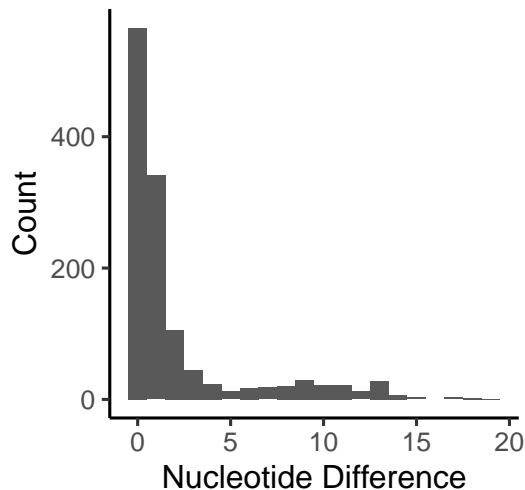


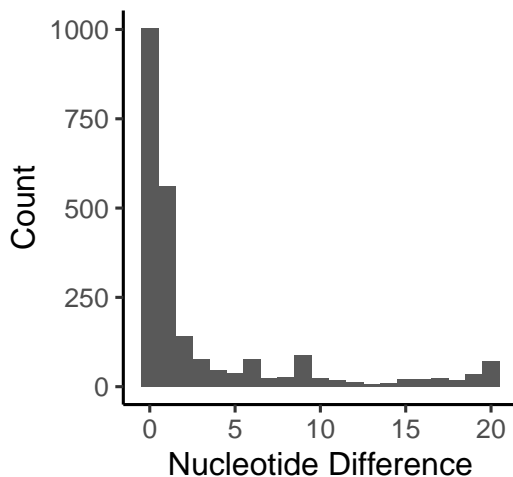
### IGHV1-2\*04

1288 sequences assigned  
566 (43.9%) exact matches, in which:  
530 unique CDR3  
6 unique J



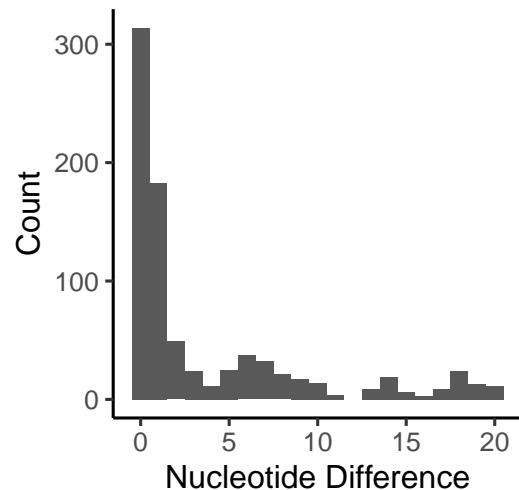
### IGHV1-18\*01

2418 sequences assigned  
1003 (41.5%) exact matches, in which:  
923 unique CDR3  
6 unique J



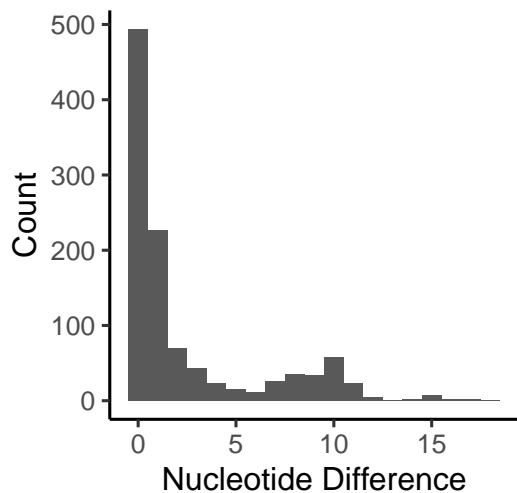
### IGHV1-46\*01

840 sequences assigned  
314 (37.4%) exact matches, in which:  
296 unique CDR3  
6 unique J



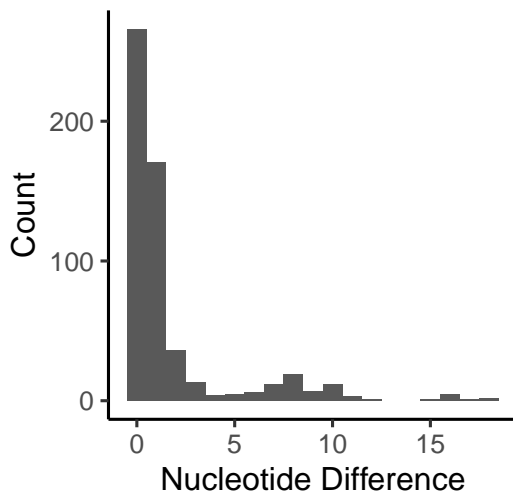
### IGHV1-3\*01\_05

1085 sequences assigned  
494 (45.5%) exact matches, in which:  
462 unique CDR3  
6 unique J



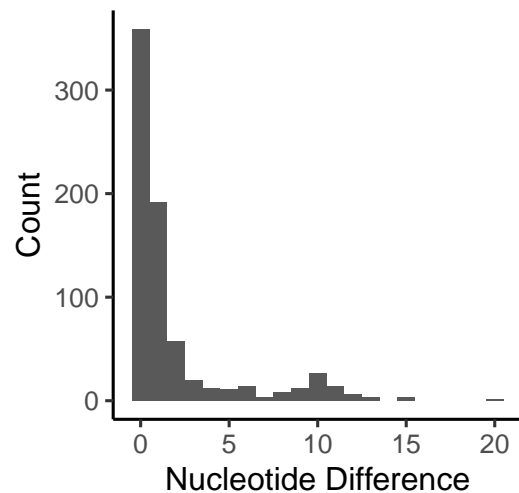
### IGHV1-24\*01

564 sequences assigned  
266 (47.2%) exact matches, in which:  
256 unique CDR3  
6 unique J



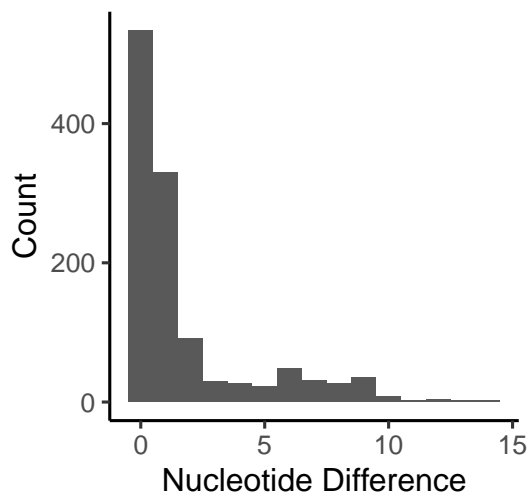
### IGHV1-46\*04

782 sequences assigned  
359 (45.9%) exact matches, in which:  
338 unique CDR3  
6 unique J



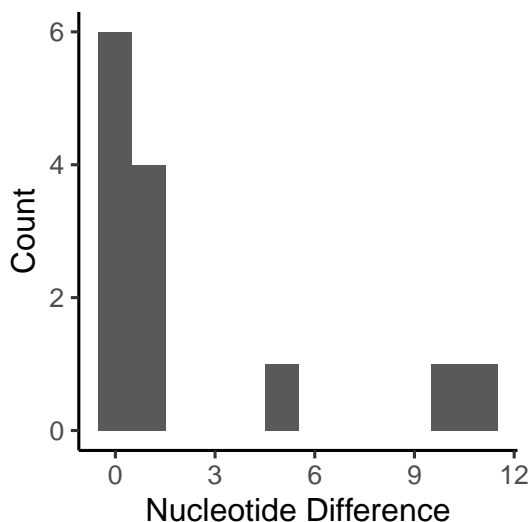
### IGHV1-8\*01

1193 sequences assigned  
534 (44.8%) exact matches, in which:  
485 unique CDR3  
6 unique J



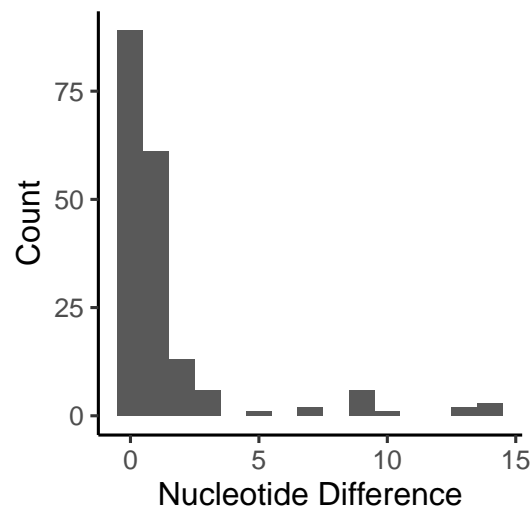
### IGHV1-45\*02

13 sequences assigned  
6 (46.2%) exact matches, in which:  
5 unique CDR3  
3 unique J



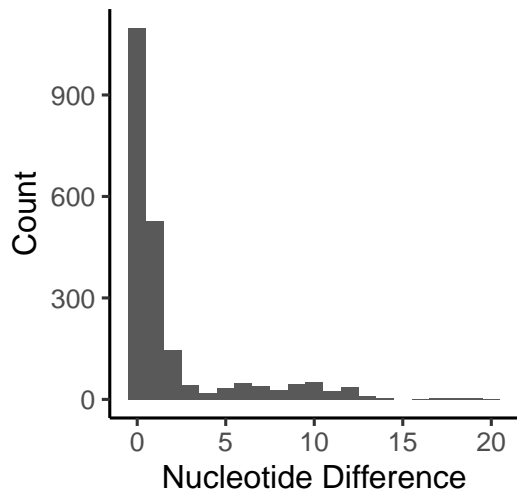
### IGHV1-58\*02

184 sequences assigned  
89 (48.4%) exact matches, in which:  
82 unique CDR3  
5 unique J



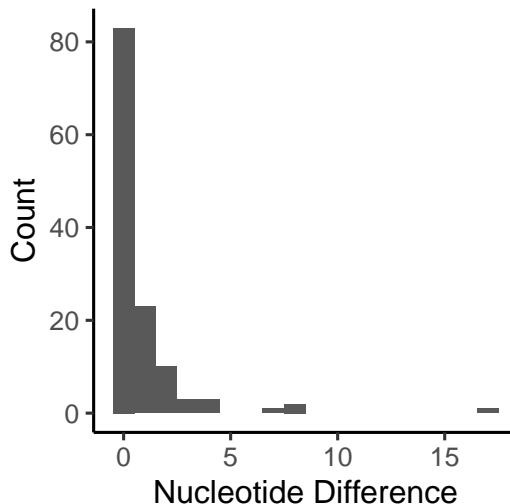
### IGHV1–69\*04\_09

2259 sequences assigned  
1099 (48.6%) exact matches, in which:  
1049 unique CDR3  
6 unique J



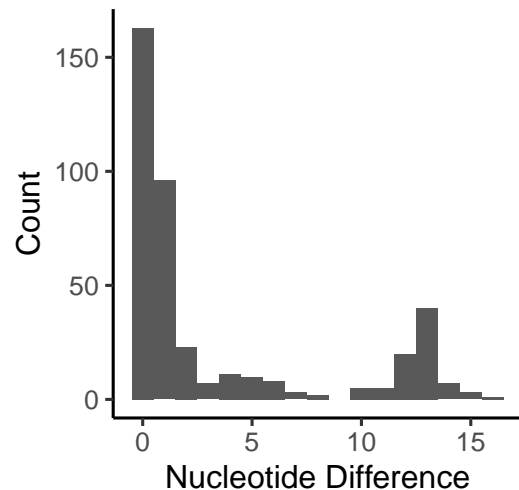
### IGHV2–26\*01

139 sequences assigned  
83 (59.7%) exact matches, in which:  
79 unique CDR3  
6 unique J



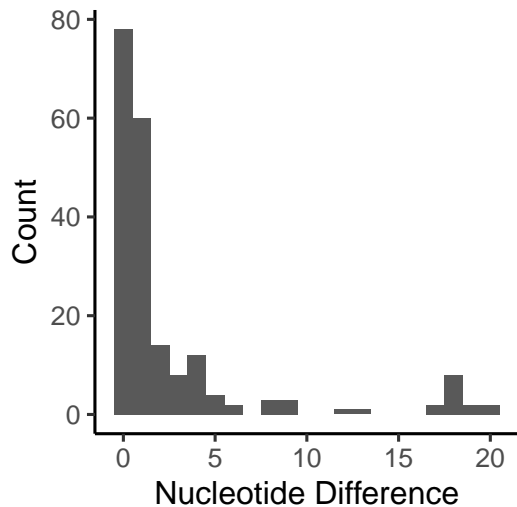
### IGHV3–7\*04

404 sequences assigned  
163 (40.3%) exact matches, in which:  
157 unique CDR3  
6 unique J



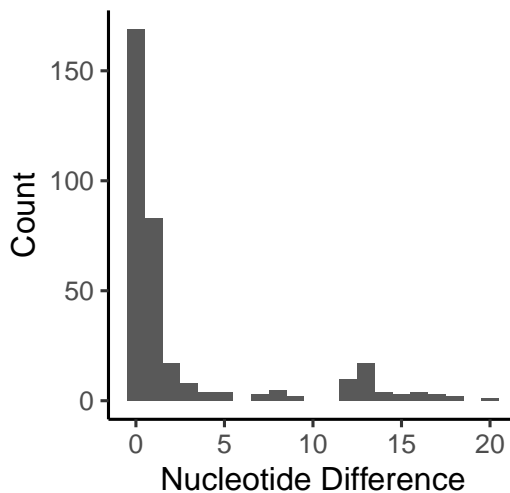
### IGHV2–5\*01

202 sequences assigned  
78 (38.6%) exact matches, in which:  
76 unique CDR3  
5 unique J



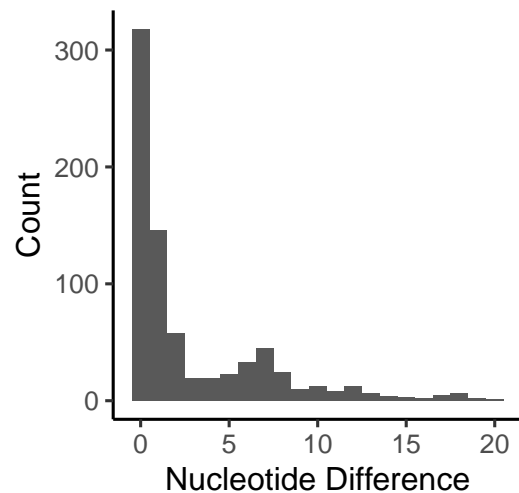
### IGHV2–70\*11\_15

341 sequences assigned  
169 (49.6%) exact matches, in which:  
163 unique CDR3  
6 unique J



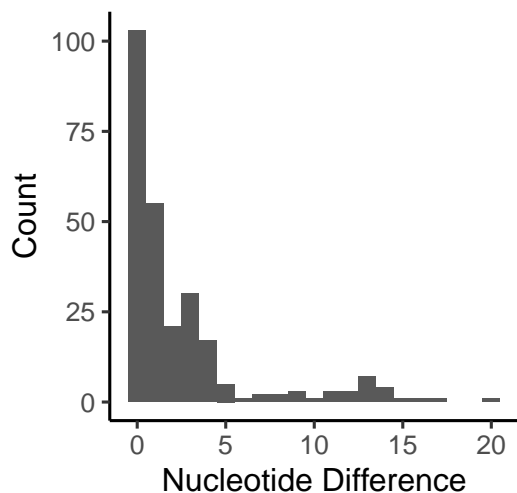
### IGHV3–9\*01

758 sequences assigned  
318 (42%) exact matches, in which:  
307 unique CDR3  
6 unique J



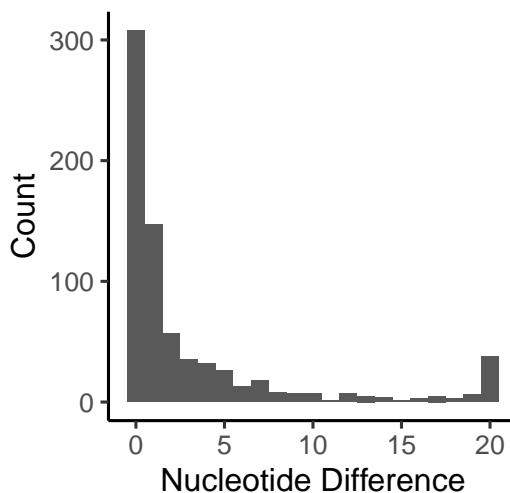
### IGHV2–5\*02

271 sequences assigned  
103 (38%) exact matches, in which:  
96 unique CDR3  
6 unique J



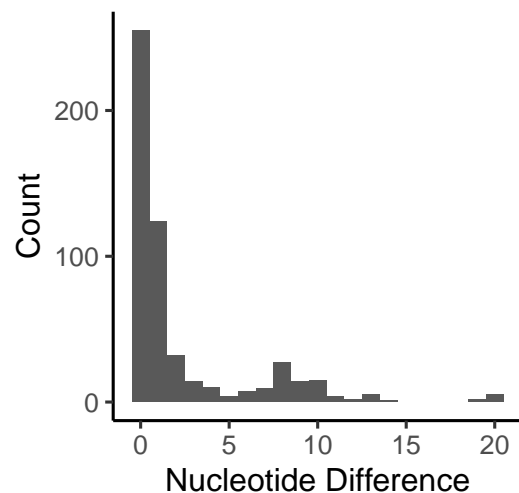
### IGHV3–7\*01

772 sequences assigned  
308 (39.9%) exact matches, in which:  
298 unique CDR3  
6 unique J



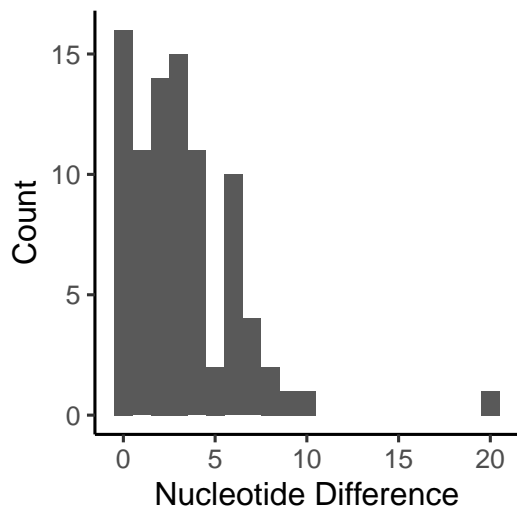
### IGHV3–11\*01

552 sequences assigned  
255 (46.2%) exact matches, in which:  
248 unique CDR3  
6 unique J



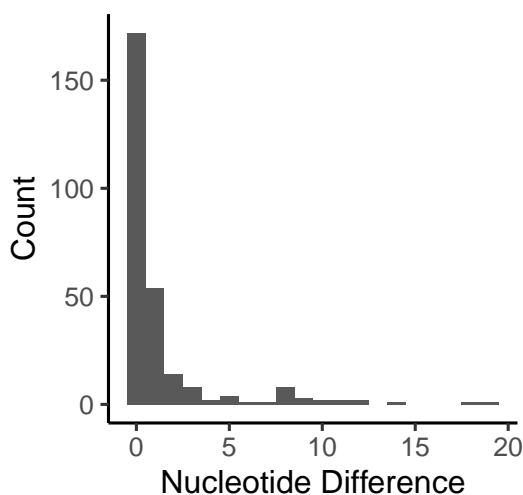
### IGHV3-11\*04

88 sequences assigned  
16 (18.2%) exact matches, in which:  
16 unique CDR3  
4 unique J



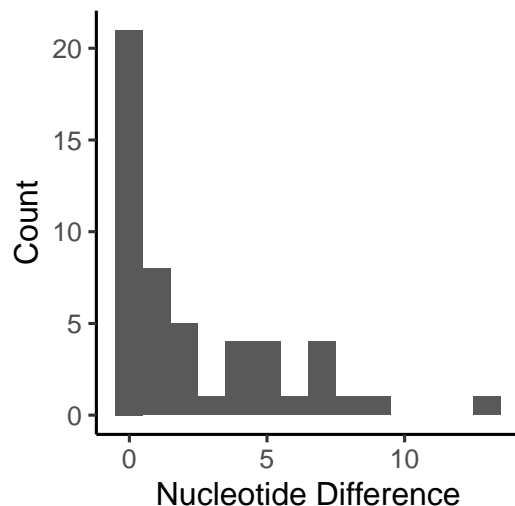
### IGHV3-15\*07

276 sequences assigned  
172 (62.3%) exact matches, in which:  
166 unique CDR3  
6 unique J



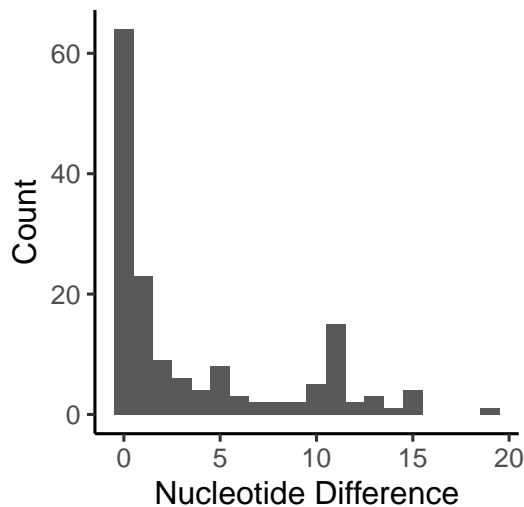
### IGHV3-20\*03\_04

51 sequences assigned  
21 (41.2%) exact matches, in which:  
19 unique CDR3  
3 unique J



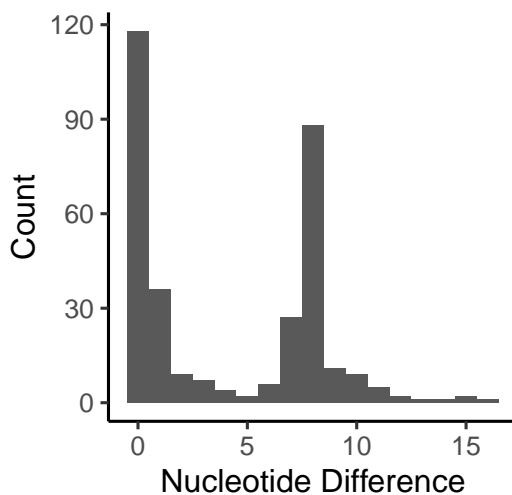
### IGHV3-11\*06

154 sequences assigned  
64 (41.6%) exact matches, in which:  
60 unique CDR3  
6 unique J



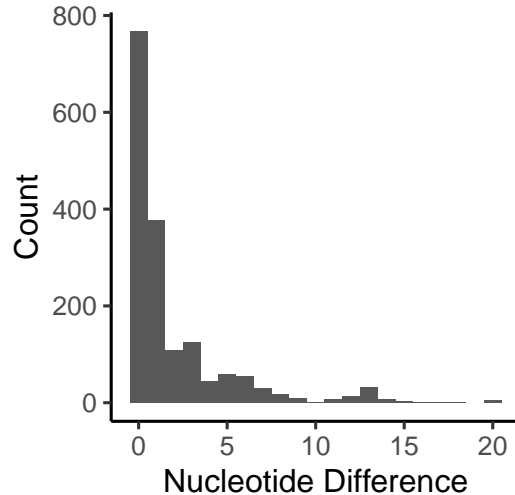
### IGHV3-15\*01\_02

342 sequences assigned  
118 (34.5%) exact matches, in which:  
116 unique CDR3  
6 unique J



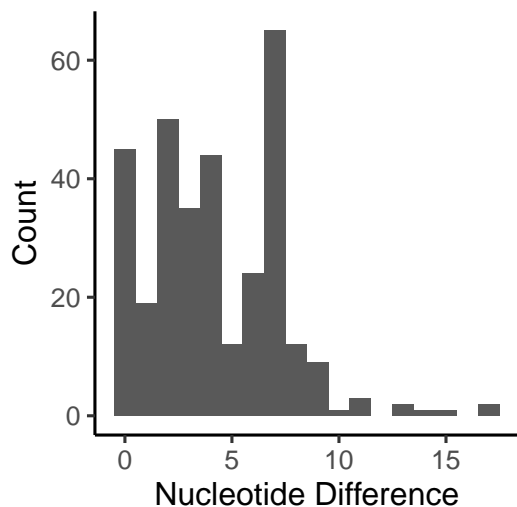
### IGHV3-21\*01\_02

1708 sequences assigned  
768 (45%) exact matches, in which:  
720 unique CDR3  
6 unique J



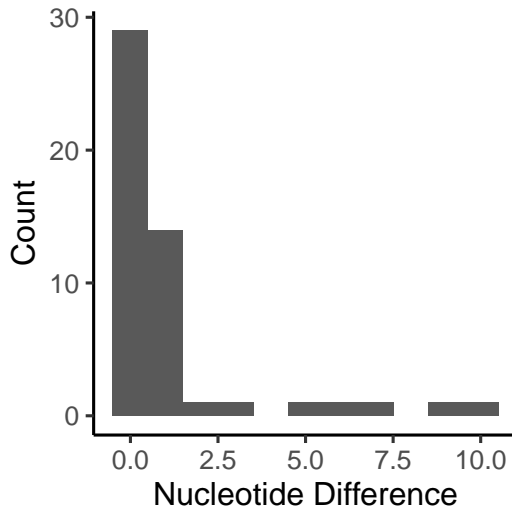
### IGHV3-13\*01

326 sequences assigned  
45 (13.8%) exact matches, in which:  
43 unique CDR3  
5 unique J



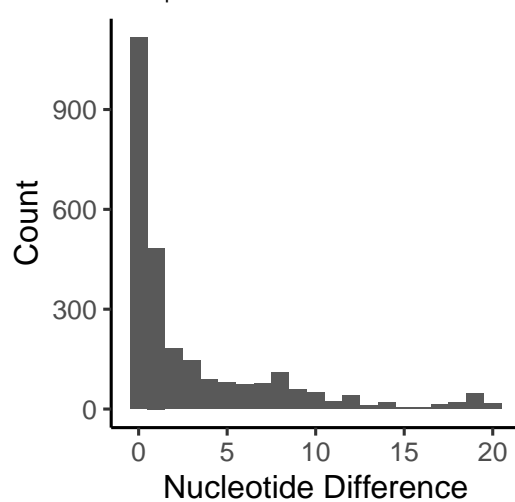
### IGHV3-20\*01\_02

50 sequences assigned  
29 (58%) exact matches, in which:  
28 unique CDR3  
5 unique J



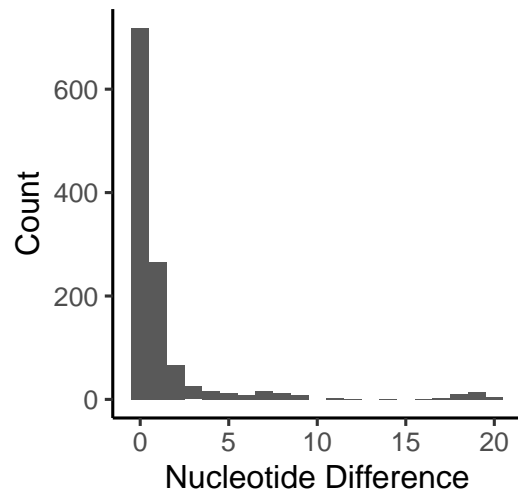
### IGHV3-23\*01\_04

2789 sequences assigned  
1117 (40.1%) exact matches, in which:  
1060 unique CDR3  
6 unique J



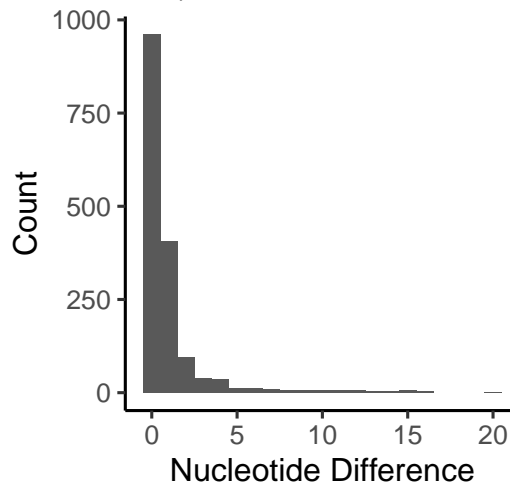
### IGHV3-30-3\*01

1228 sequences assigned  
719 (58.6%) exact matches, in which:  
691 unique CDR3  
6 unique J



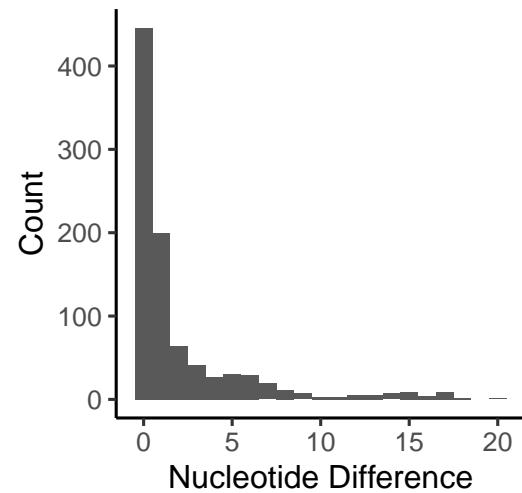
### IGHV3-33\*01

1624 sequences assigned  
961 (59.2%) exact matches, in which:  
920 unique CDR3  
6 unique J



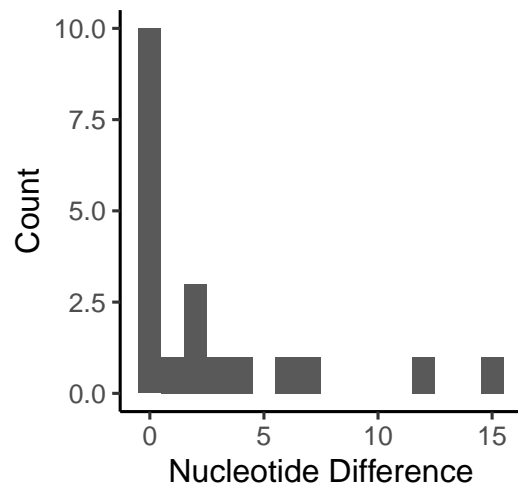
### IGHV3-48\*01

923 sequences assigned  
446 (48.3%) exact matches, in which:  
414 unique CDR3  
6 unique J



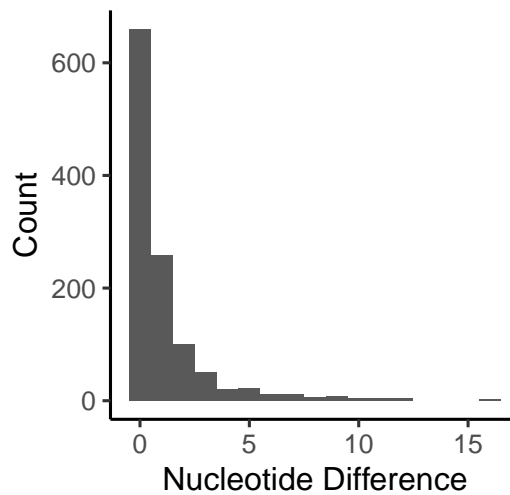
### IGHV3-30-5\*01

20 sequences assigned  
10 (50%) exact matches, in which:  
10 unique CDR3  
3 unique J



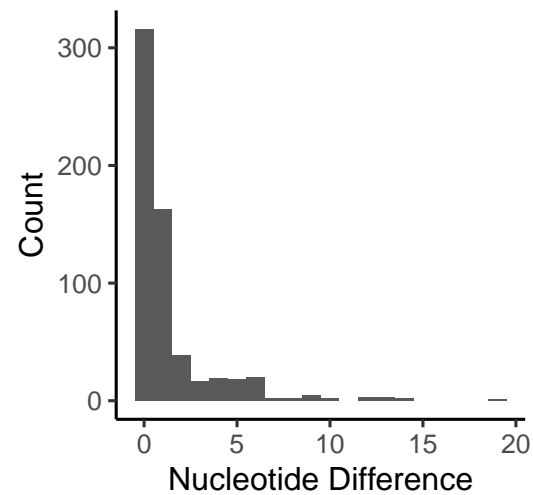
### IGHV3-33\*08

1167 sequences assigned  
660 (56.6%) exact matches, in which:  
641 unique CDR3  
6 unique J



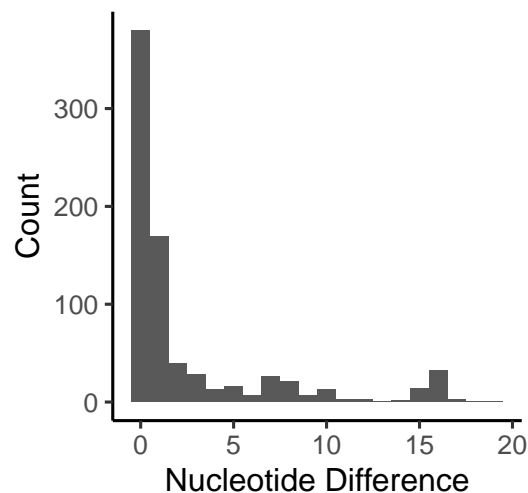
### IGHV3-48\*02

619 sequences assigned  
316 (51.1%) exact matches, in which:  
293 unique CDR3  
6 unique J



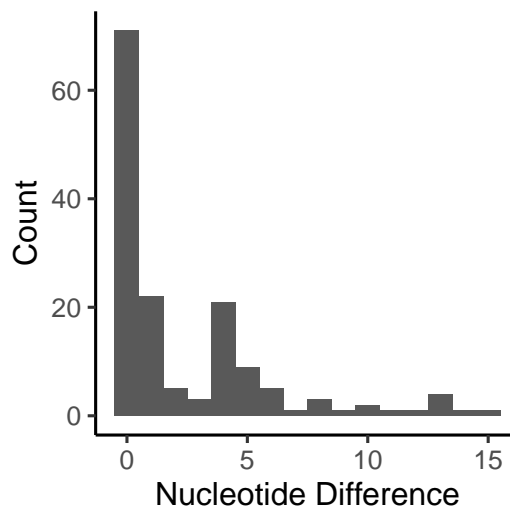
### IGHV3-30\*03

785 sequences assigned  
380 (48.4%) exact matches, in which:  
365 unique CDR3  
6 unique J



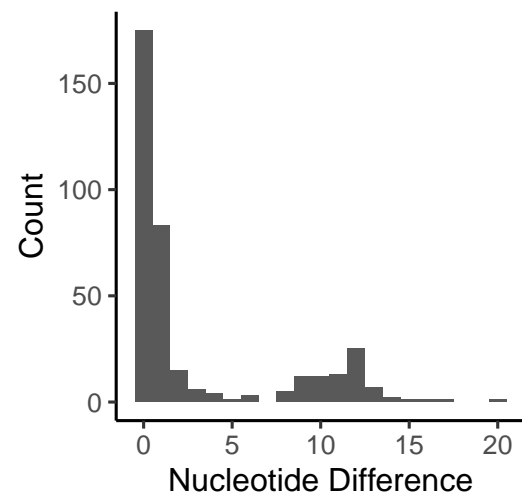
### IGHV3-43\*01

151 sequences assigned  
71 (47%) exact matches, in which:  
69 unique CDR3  
5 unique J



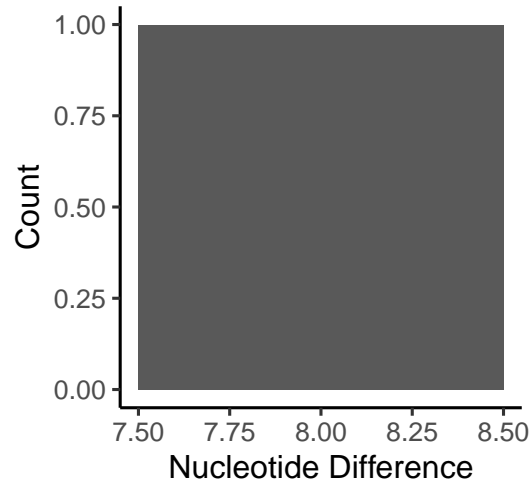
### IGHV3-49\*03\_05

394 sequences assigned  
175 (44.4%) exact matches, in which:  
168 unique CDR3  
6 unique J



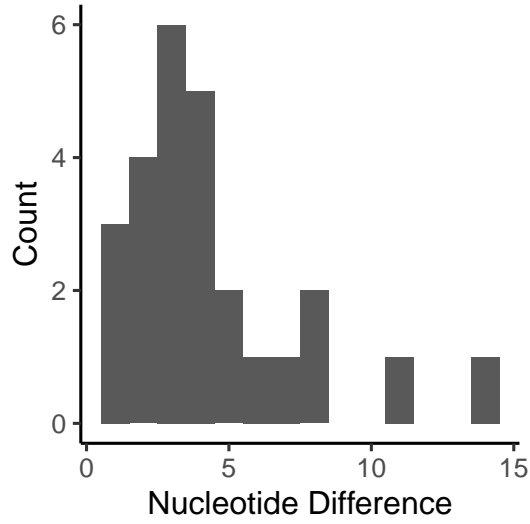
### IGHV3-52\*01\_03

1 sequences assigned  
No exact matches.



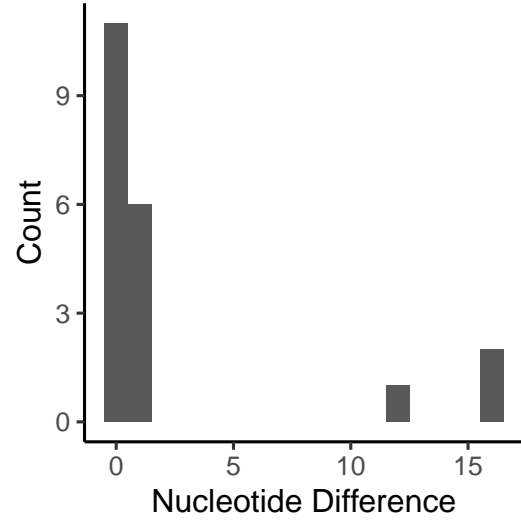
### IGHV3-64\*04

26 sequences assigned  
No exact matches.



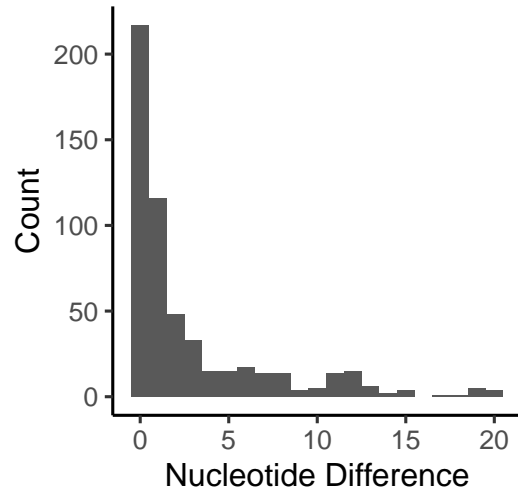
### IGHV3-72\*01

20 sequences assigned  
11 (55%) exact matches, in which:  
11 unique CDR3  
2 unique J



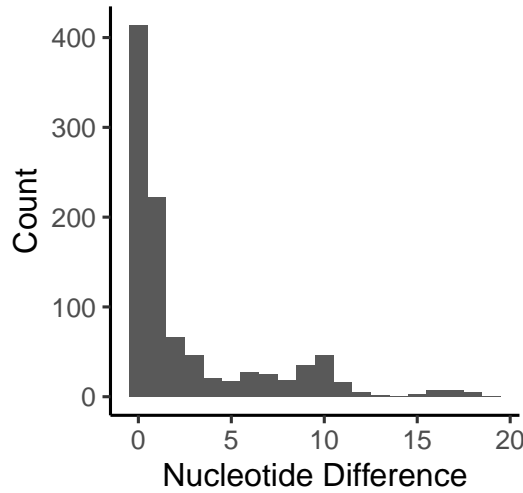
### IGHV3-53\*01\_02

571 sequences assigned  
217 (38%) exact matches, in which:  
205 unique CDR3  
6 unique J



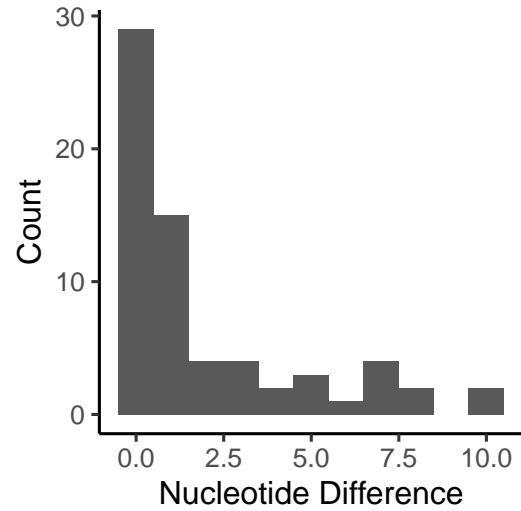
### IGHV3-66\*01

984 sequences assigned  
414 (42.1%) exact matches, in which:  
396 unique CDR3  
6 unique J



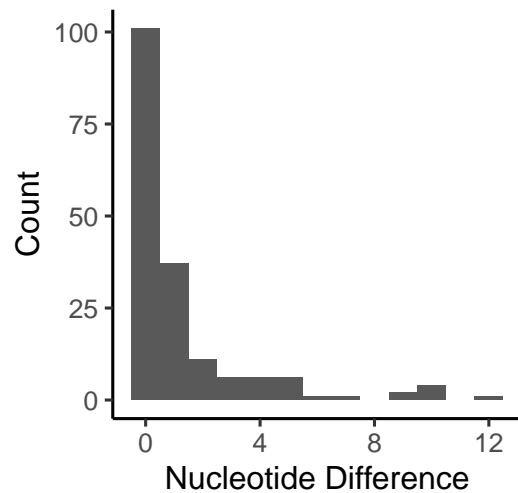
### IGHV3-72\*01\_T159A\_C10

67 sequences assigned  
29 (43.3%) exact matches, in which:  
29 unique CDR3  
3 unique J



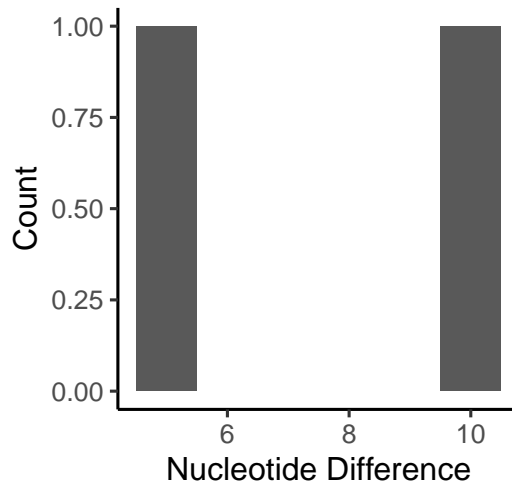
### IGHV3-64\*01

176 sequences assigned  
101 (57.4%) exact matches, in which:  
94 unique CDR3  
6 unique J



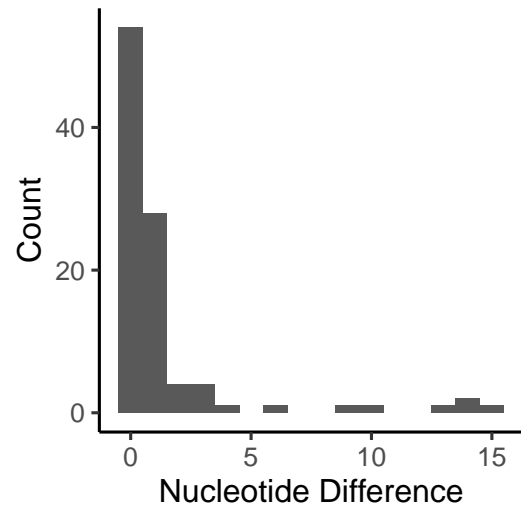
### IGHV3-69-1\*01

2 sequences assigned  
No exact matches.



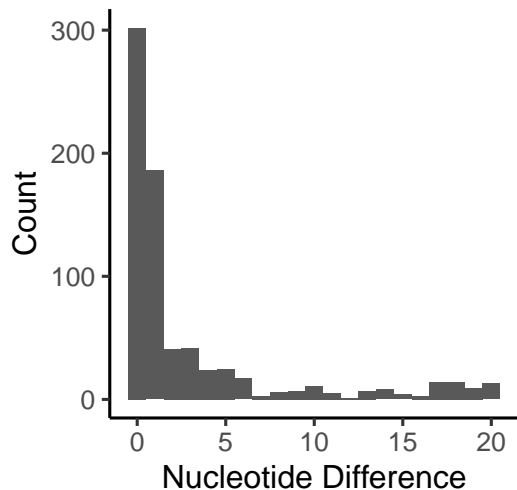
### IGHV3-73\*01\_02

98 sequences assigned  
54 (55.1%) exact matches, in which:  
52 unique CDR3  
5 unique J



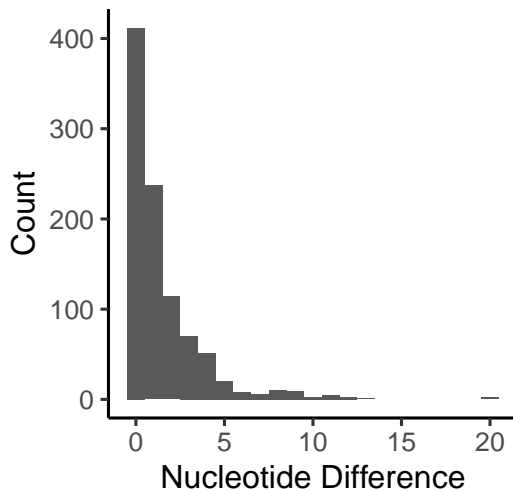
### IGHV3-74\*01\_02

763 sequences assigned  
302 (39.6%) exact matches, in which:  
281 unique CDR3  
6 unique J



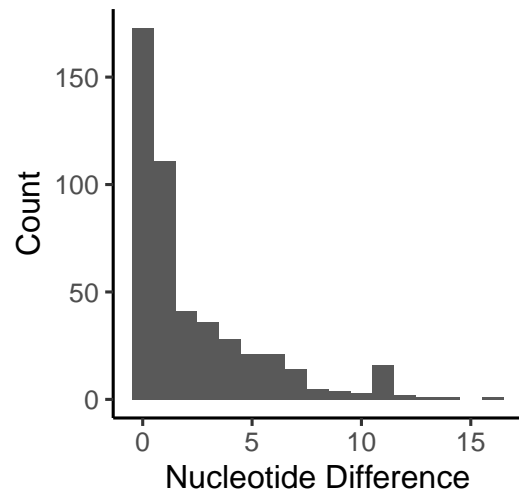
### IGHV4-4\*02\_03

990 sequences assigned  
412 (41.6%) exact matches, in which:  
388 unique CDR3  
6 unique J



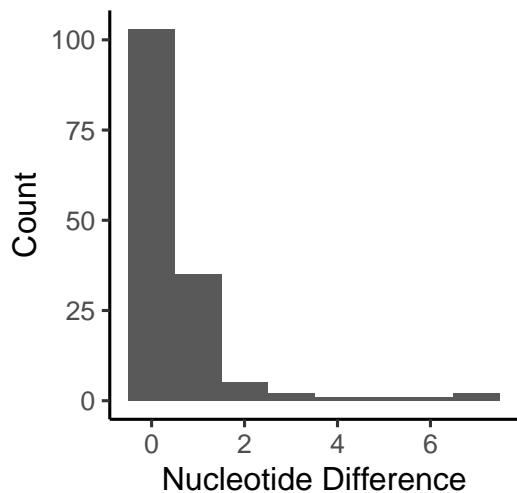
### IGHV4-30-4\*01

478 sequences assigned  
173 (36.2%) exact matches, in which:  
168 unique CDR3  
5 unique J



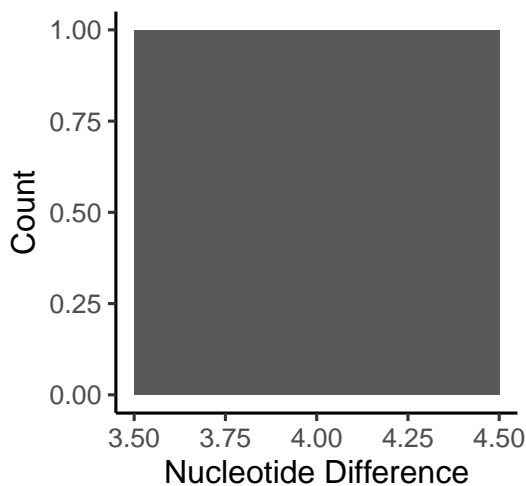
### IGHV3-64D\*06

150 sequences assigned  
103 (68.7%) exact matches, in which:  
91 unique CDR3  
4 unique J



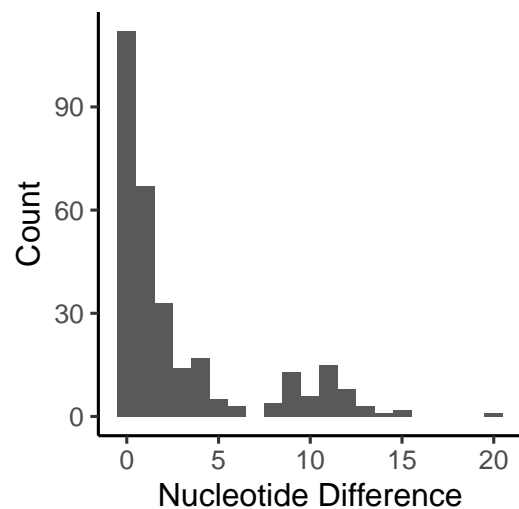
### IGHV4-28\*03

1 sequences assigned  
No exact matches.



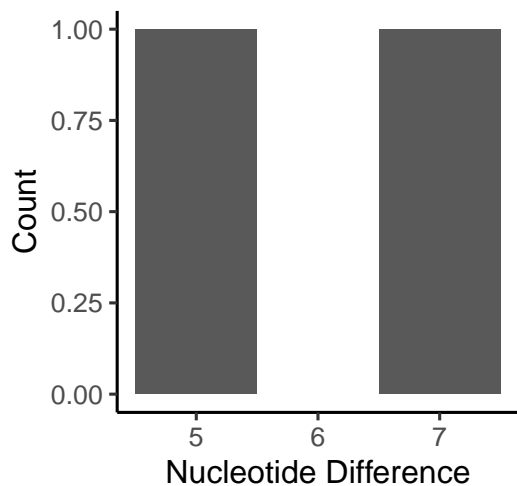
### IGHV4-30-2\*01

305 sequences assigned  
112 (36.7%) exact matches, in which:  
94 unique CDR3  
6 unique J



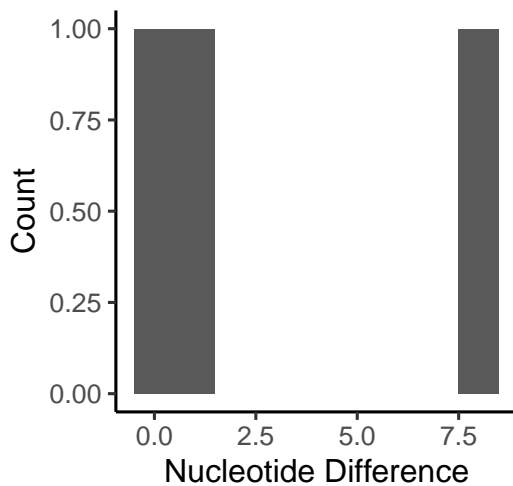
### IGHV3-NL1\*01

2 sequences assigned  
No exact matches.



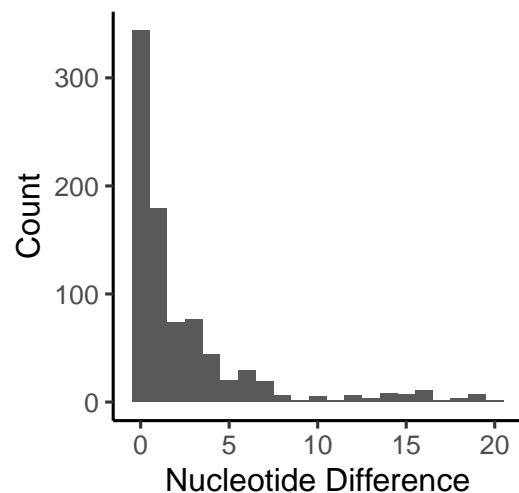
### IGHV4-28\*01\_07

10 sequences assigned  
1 (10%) exact matches, in which:  
1 unique CDR3  
1 unique J



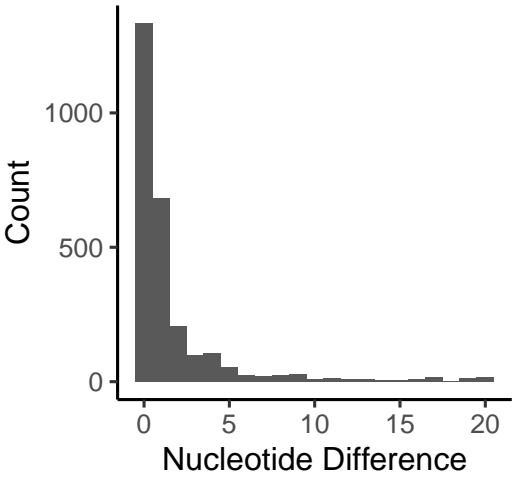
### IGHV4-31\*02

869 sequences assigned  
344 (39.6%) exact matches, in which:  
328 unique CDR3  
6 unique J



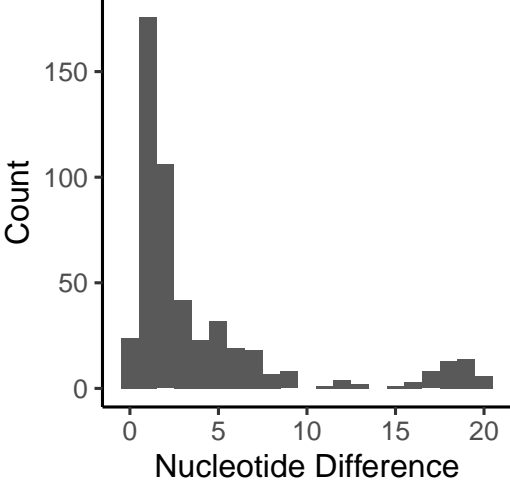
IGHV4-34\*01\_02

2698 sequences assigned  
1333 (49.4%) exact matches, in which:  
1216 unique CDR3  
6 unique J



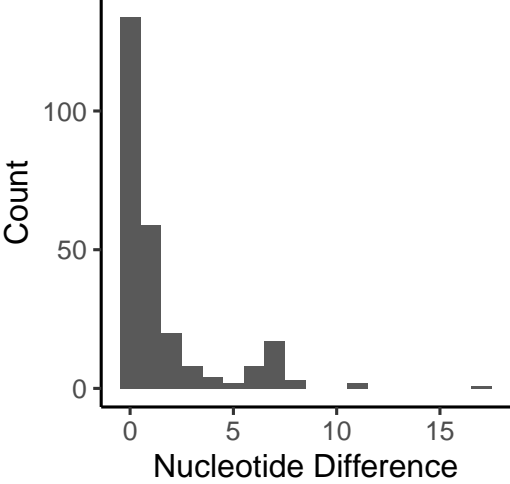
IGHV4-59\*12

541 sequences assigned  
24 (4.4%) exact matches, in which:  
24 unique CDR3  
4 unique J



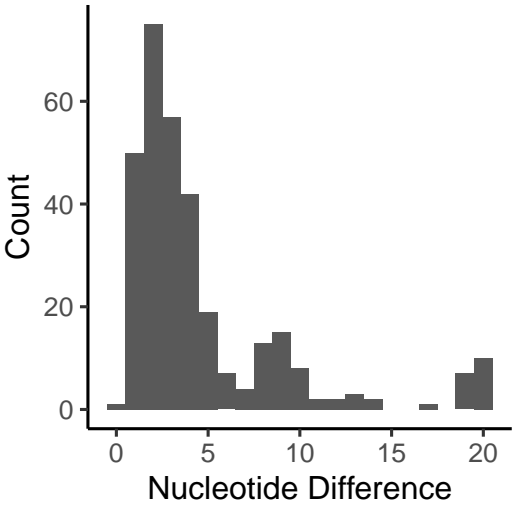
IGHV5-10-1\*01\_03

258 sequences assigned  
134 (51.9%) exact matches, in which:  
122 unique CDR3  
6 unique J



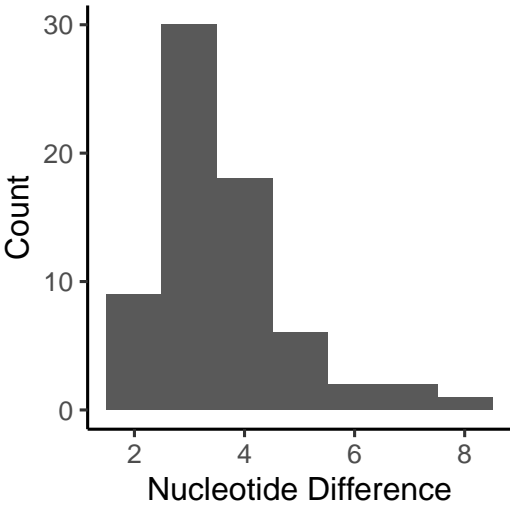
IGHV4-39\*07

334 sequences assigned  
1 (0.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



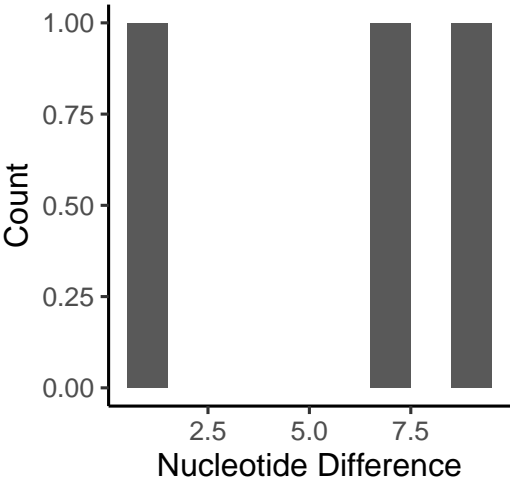
IGHV4-61\*05

70 sequences assigned  
No exact matches.



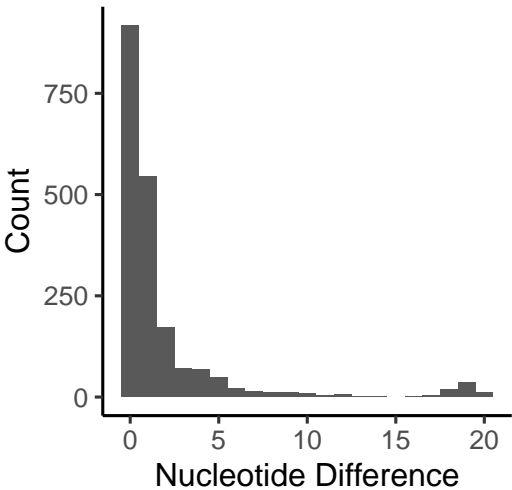
IGHV5-51\*04

3 sequences assigned  
No exact matches.



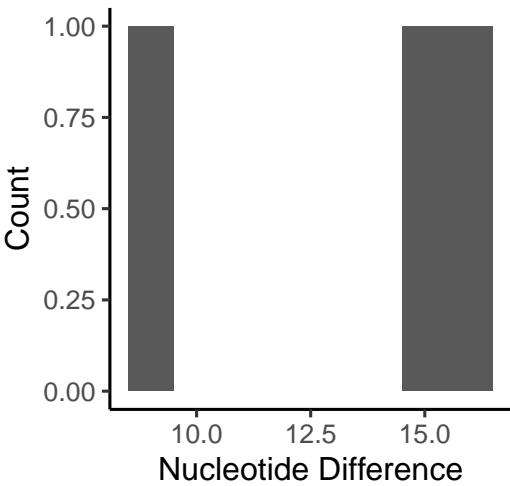
IGHV4-59\*08

2169 sequences assigned  
918 (42.3%) exact matches, in which:  
856 unique CDR3  
6 unique J



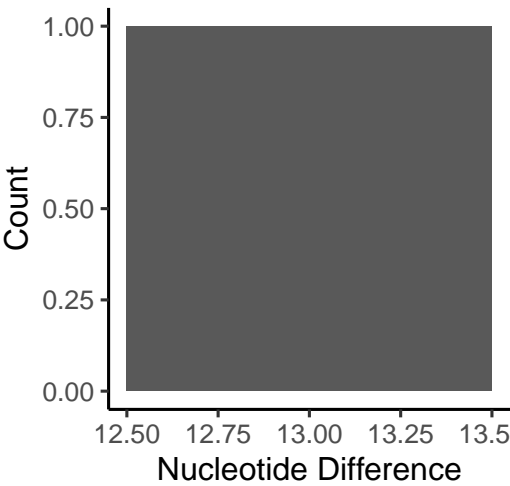
IGHV4/OR15-8\*01

3 sequences assigned  
No exact matches.



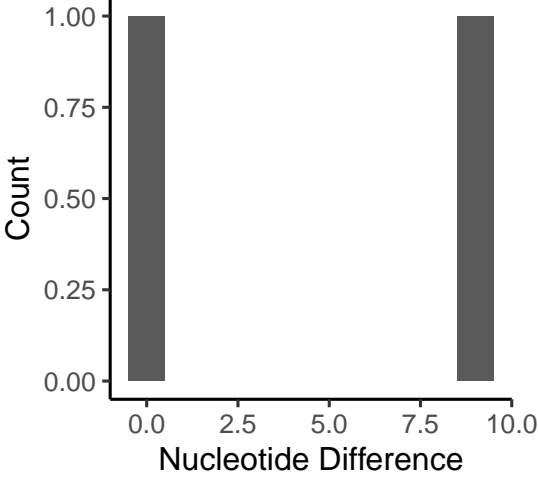
IGHV5-51\*06

1 sequences assigned  
No exact matches.



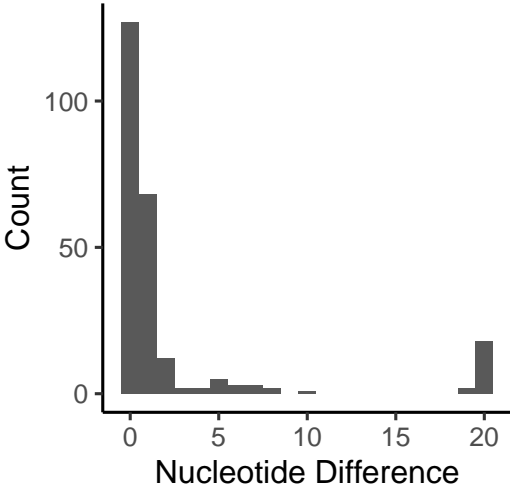
IGHV5-51\*07

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



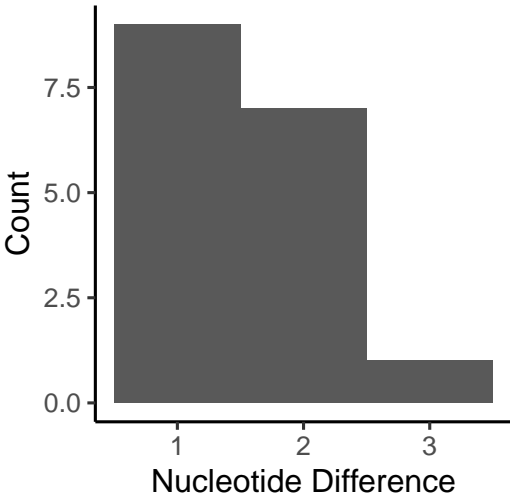
IGHV6-1\*01\_02

254 sequences assigned  
127 (50%) exact matches, in which:  
117 unique CDR3  
6 unique J



IGHV7-4-1\*01

17 sequences assigned  
No exact matches.







Warning – no inferred sequences found.