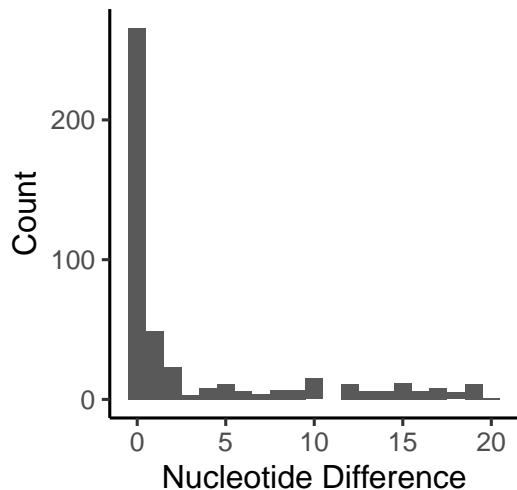


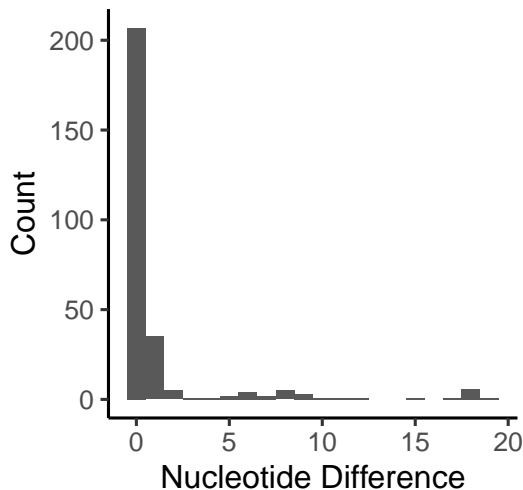
### IGHV1-2\*02

479 sequences assigned  
266 (55.5%) exact matches, in which:  
262 unique CDR3  
6 unique J



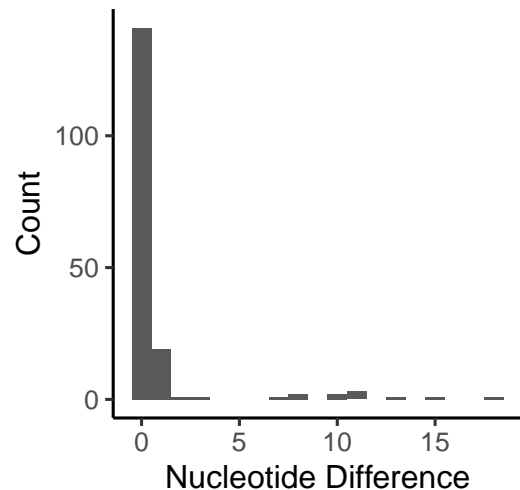
### IGHV1-8\*01

286 sequences assigned  
207 (72.4%) exact matches, in which:  
203 unique CDR3  
6 unique J



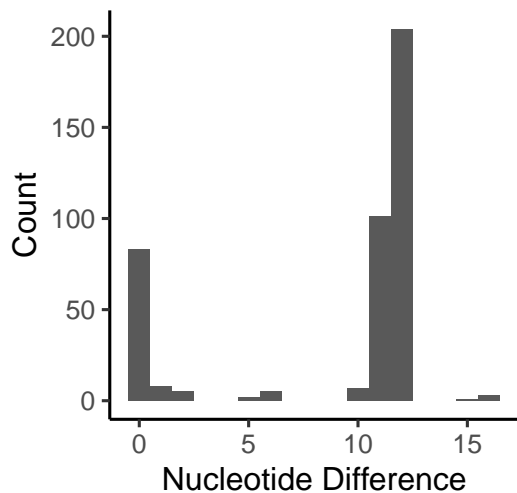
### IGHV1-24\*01

173 sequences assigned  
141 (81.5%) exact matches, in which:  
139 unique CDR3  
6 unique J



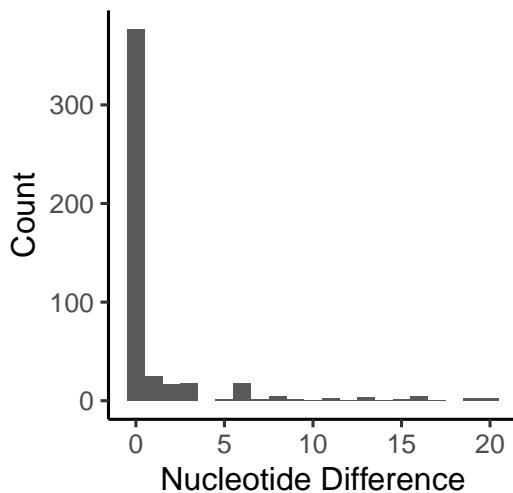
### IGHV1-2\*04

419 sequences assigned  
83 (19.8%) exact matches, in which:  
81 unique CDR3  
6 unique J



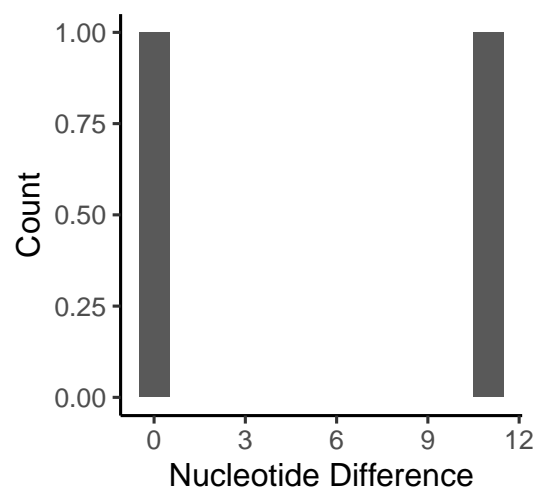
### IGHV1-18\*01

513 sequences assigned  
377 (73.5%) exact matches, in which:  
368 unique CDR3  
6 unique J



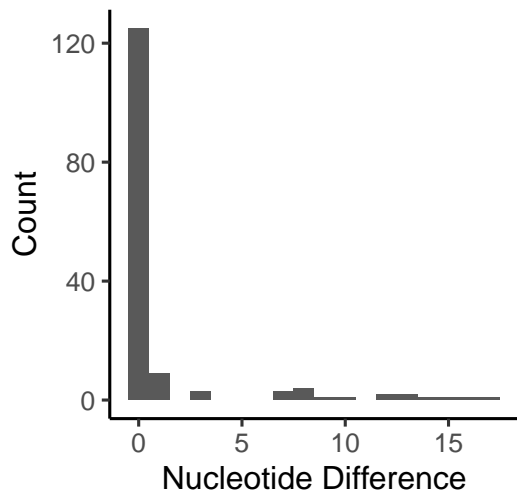
### IGHV1-45\*02

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



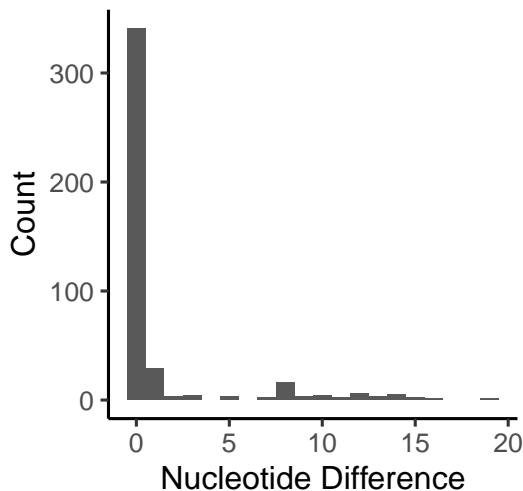
### IGHV1-3\*01\_05

159 sequences assigned  
125 (78.6%) exact matches, in which:  
122 unique CDR3  
5 unique J



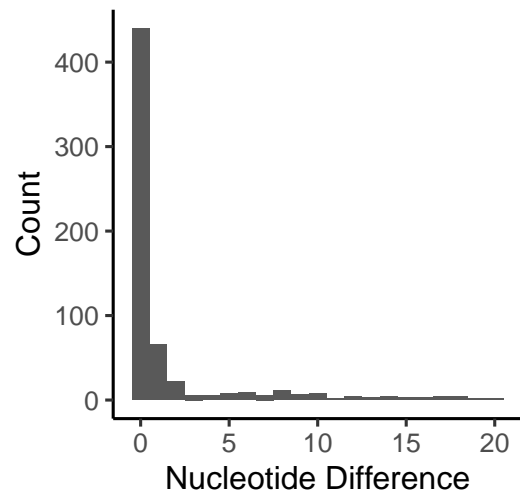
### IGHV1-18\*04

451 sequences assigned  
341 (75.6%) exact matches, in which:  
334 unique CDR3  
6 unique J



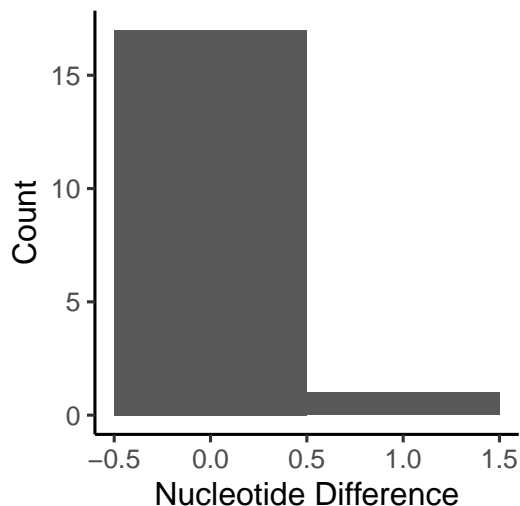
### IGHV1-46\*01

642 sequences assigned  
440 (68.5%) exact matches, in which:  
436 unique CDR3  
6 unique J



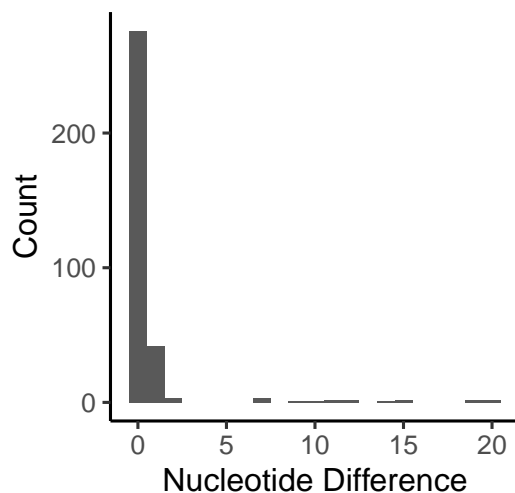
### IGHV1-58\*02

18 sequences assigned  
17 (94.4%) exact matches, in which:  
17 unique CDR3  
4 unique J



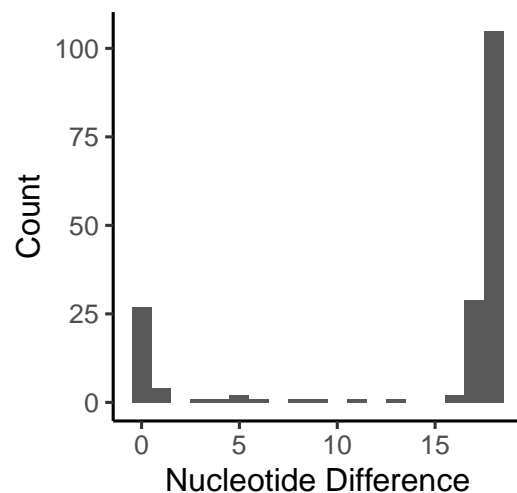
### IGHV1-69\*04\_09

345 sequences assigned  
276 (80%) exact matches, in which:  
274 unique CDR3  
6 unique J



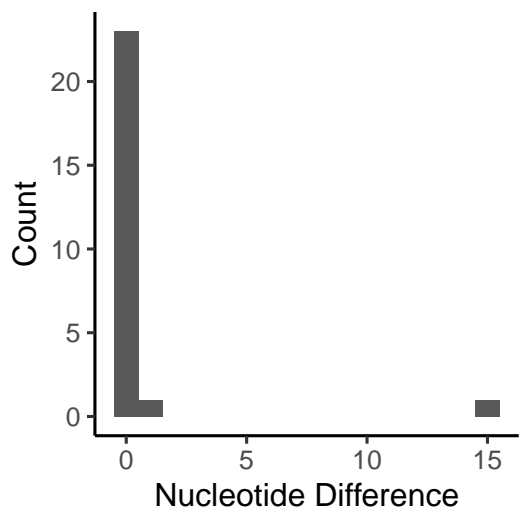
### IGHV2-5\*02

176 sequences assigned  
27 (15.3%) exact matches, in which:  
25 unique CDR3  
4 unique J



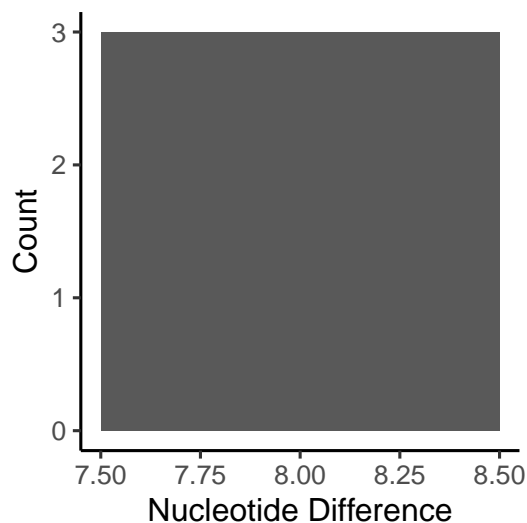
### IGHV1-58\*01\_03

25 sequences assigned  
23 (92%) exact matches, in which:  
21 unique CDR3  
5 unique J



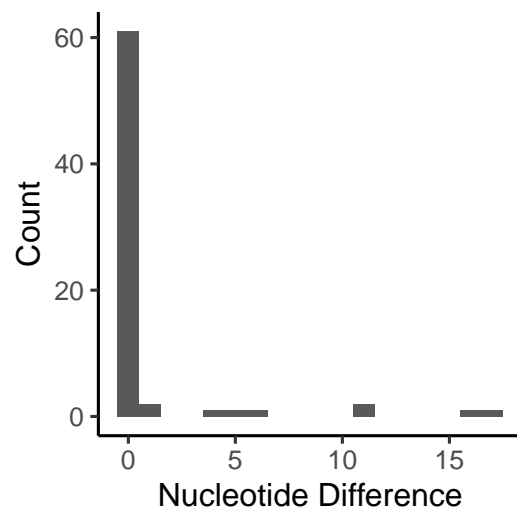
### IGHV1-NL1\*01

3 sequences assigned  
No exact matches.



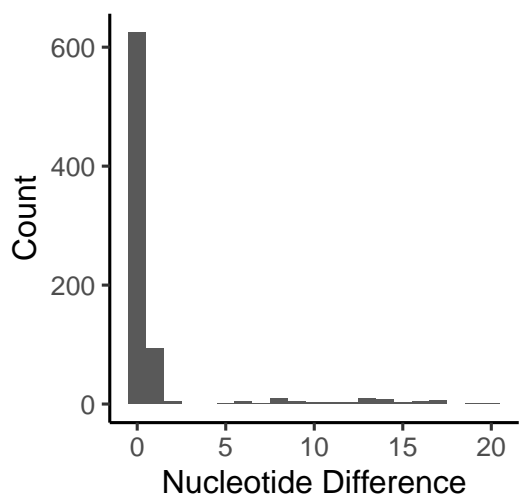
### IGHV2-26\*01

70 sequences assigned  
61 (87.1%) exact matches, in which:  
60 unique CDR3  
5 unique J



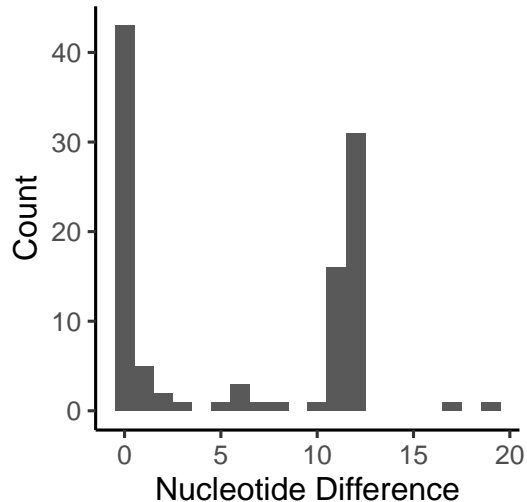
### IGHV1-69\*01\_12\_13

861 sequences assigned  
625 (72.6%) exact matches, in which:  
615 unique CDR3  
6 unique J



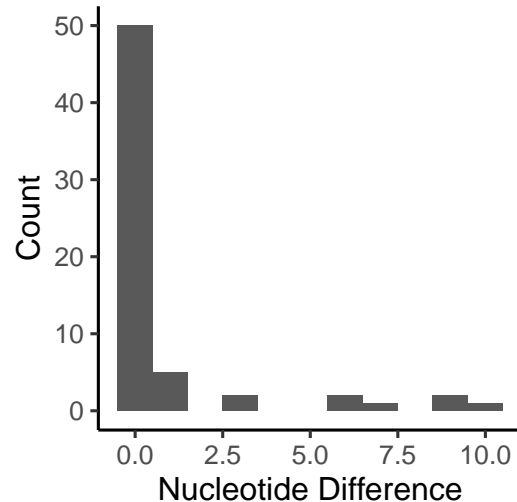
### IGHV2-5\*01

152 sequences assigned  
43 (28.3%) exact matches, in which:  
42 unique CDR3  
6 unique J



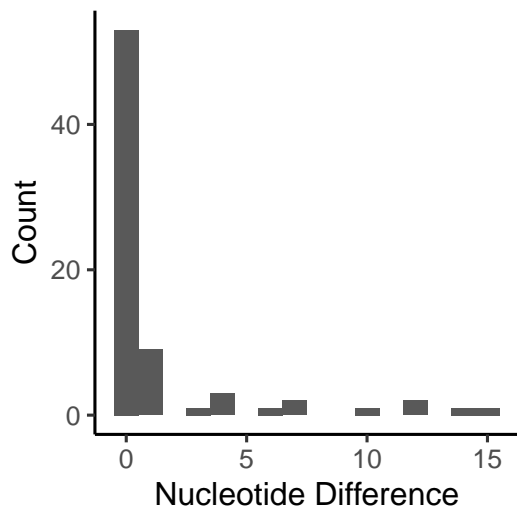
### IGHV2-70\*01

63 sequences assigned  
50 (79.4%) exact matches, in which:  
48 unique CDR3  
5 unique J



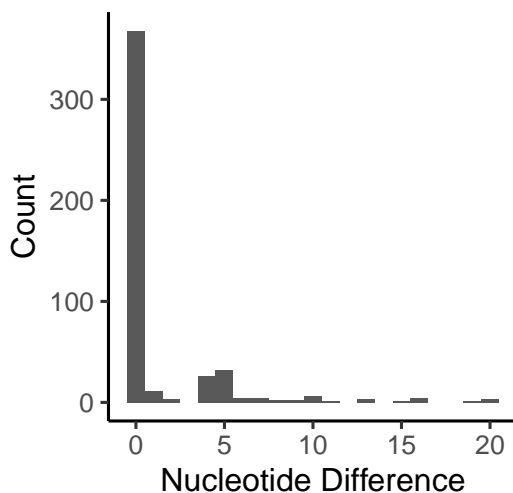
### IGHV2-70\*11\_15

75 sequences assigned  
53 (70.7%) exact matches, in which:  
51 unique CDR3  
5 unique J



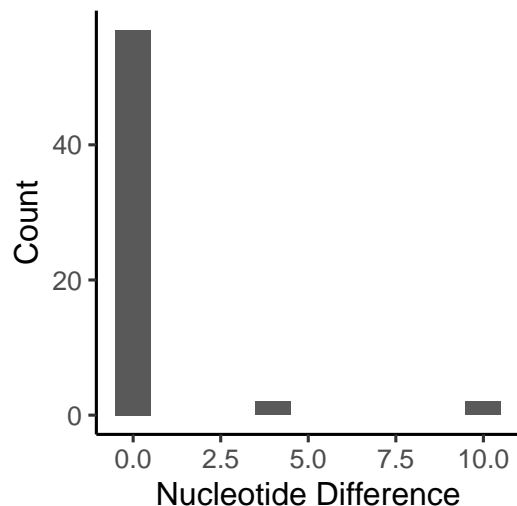
### IGHV3-9\*01

480 sequences assigned  
368 (76.7%) exact matches, in which:  
220 unique CDR3  
6 unique J



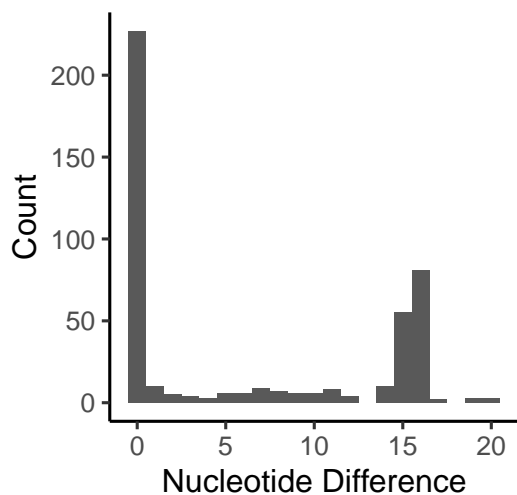
### IGHV3-13\*01

63 sequences assigned  
57 (90.5%) exact matches, in which:  
32 unique CDR3  
5 unique J



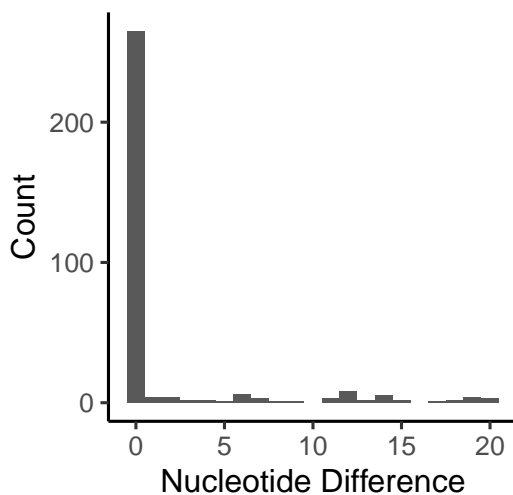
### IGHV3-7\*01

468 sequences assigned  
227 (48.5%) exact matches, in which:  
133 unique CDR3  
6 unique J



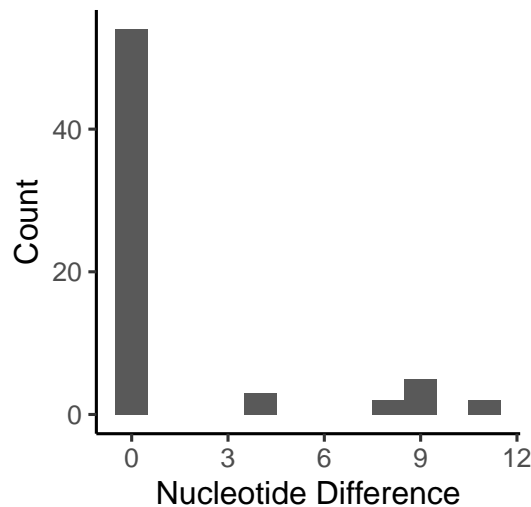
### IGHV3-11\*01

322 sequences assigned  
265 (82.3%) exact matches, in which:  
155 unique CDR3  
6 unique J



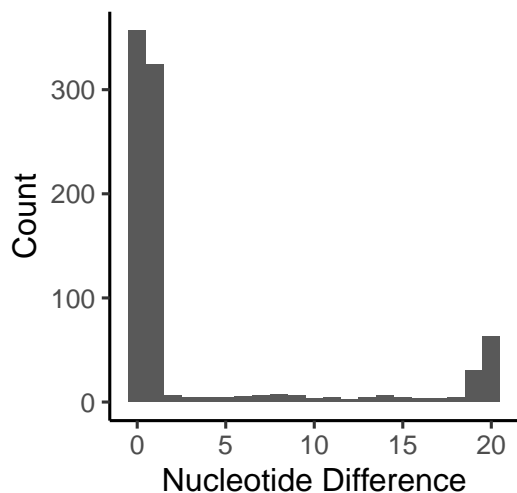
### IGHV3-13\*04

66 sequences assigned  
54 (81.8%) exact matches, in which:  
29 unique CDR3  
5 unique J



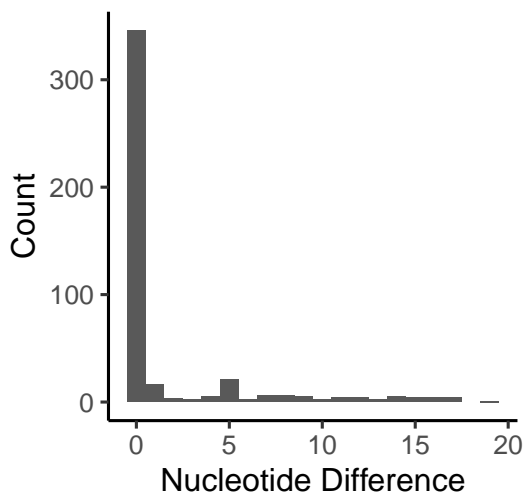
### IGHV3-7\*03

1109 sequences assigned  
357 (32.2%) exact matches, in which:  
184 unique CDR3  
6 unique J



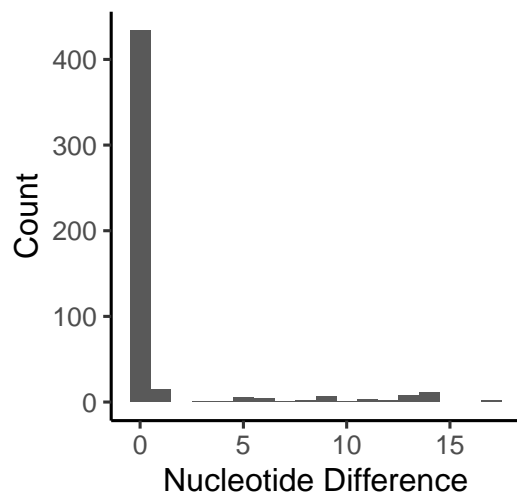
### IGHV3-11\*06\_T300C

450 sequences assigned  
346 (76.9%) exact matches, in which:  
198 unique CDR3  
6 unique J



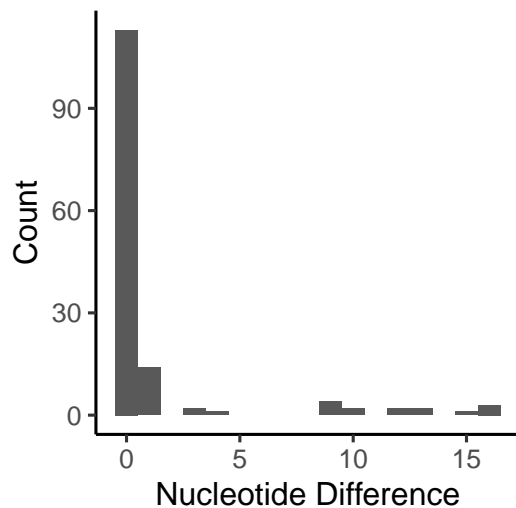
### IGHV3-15\*01\_02

722 sequences assigned  
434 (60.1%) exact matches, in which:  
272 unique CDR3  
6 unique J



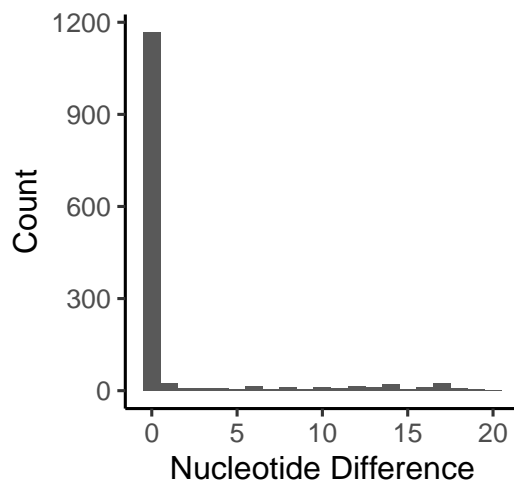
### IGHV3-20\*03\_04

147 sequences assigned  
113 (76.9%) exact matches, in which:  
63 unique CDR3  
5 unique J



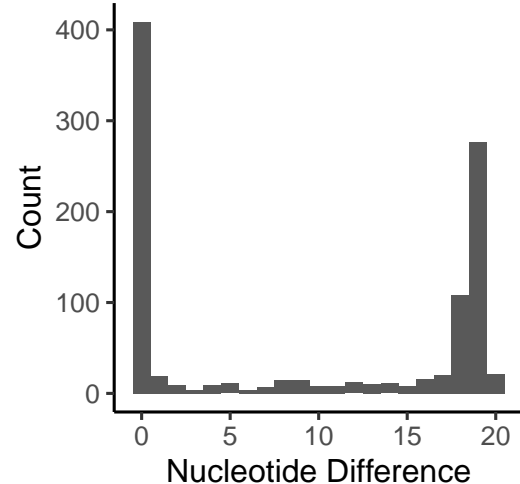
### IGHV3-30-3\*01

1419 sequences assigned  
1167 (82.2%) exact matches, in which:  
693 unique CDR3  
6 unique J



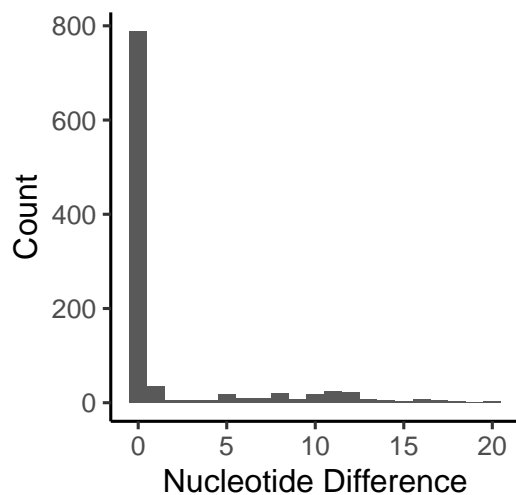
### IGHV3-48\*02

1016 sequences assigned  
409 (40.3%) exact matches, in which:  
231 unique CDR3  
6 unique J



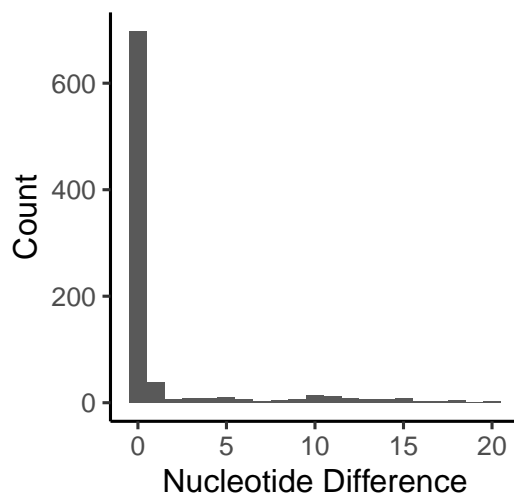
### IGHV3-21\*01\_02

1041 sequences assigned  
789 (75.8%) exact matches, in which:  
452 unique CDR3  
6 unique J



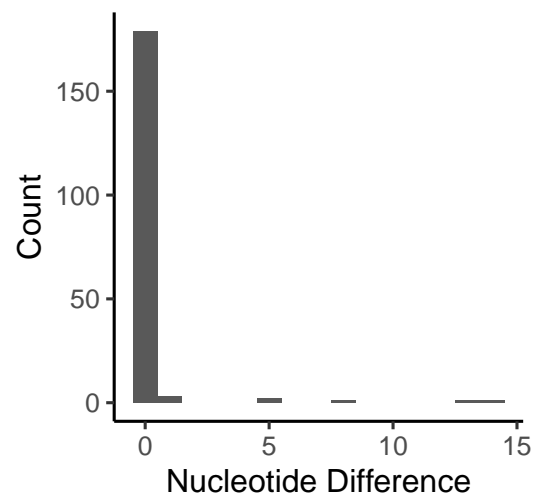
### IGHV3-33\*01

883 sequences assigned  
698 (79%) exact matches, in which:  
415 unique CDR3  
6 unique J



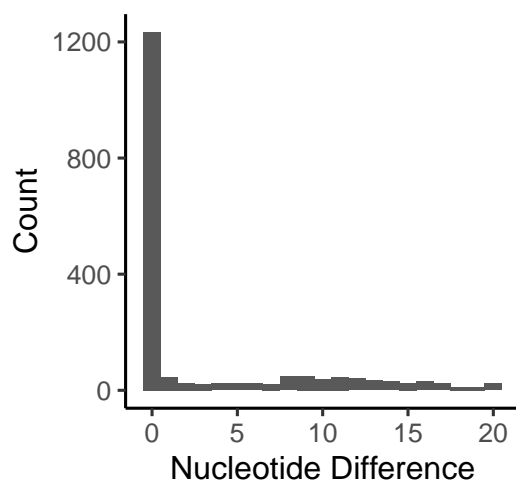
### IGHV3-49\*03\_05

187 sequences assigned  
179 (95.7%) exact matches, in which:  
114 unique CDR3  
6 unique J



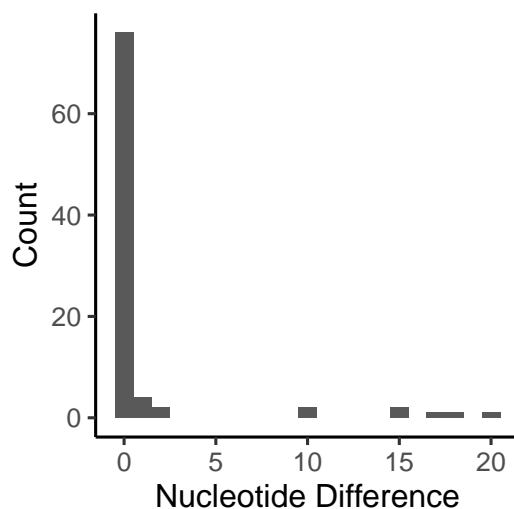
### IGHV3-23\*01\_04

1993 sequences assigned  
1234 (61.9%) exact matches, in which:  
697 unique CDR3  
6 unique J



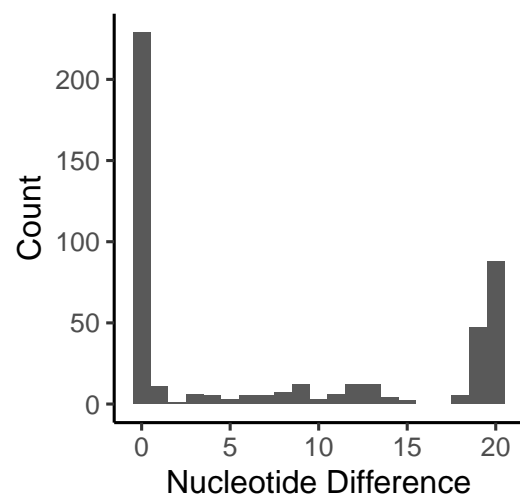
### IGHV3-43\*01

90 sequences assigned  
76 (84.4%) exact matches, in which:  
46 unique CDR3  
5 unique J



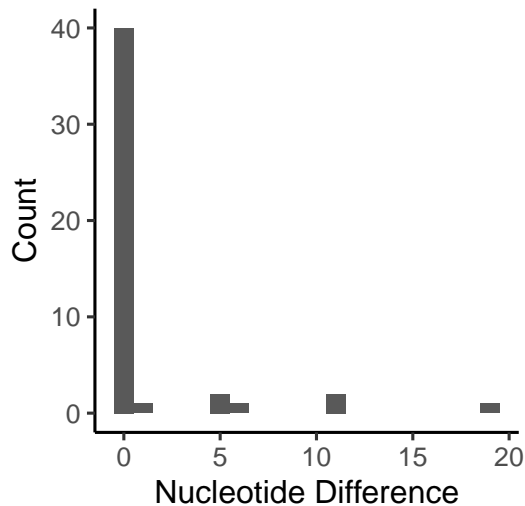
### IGHV3-53\*01\_02

516 sequences assigned  
229 (44.4%) exact matches, in which:  
129 unique CDR3  
6 unique J



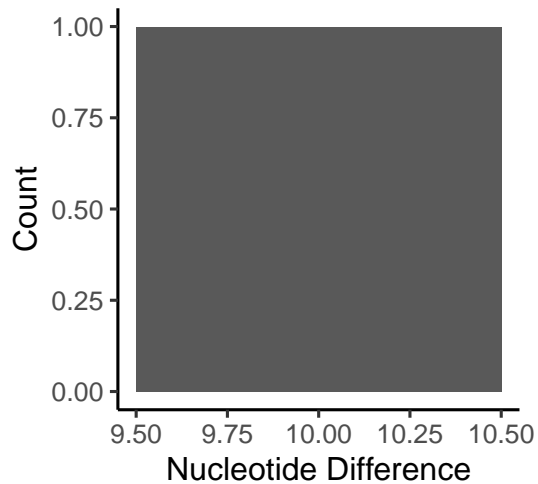
### IGHV3-64\*01

47 sequences assigned  
40 (85.1%) exact matches, in which:  
23 unique CDR3  
5 unique J



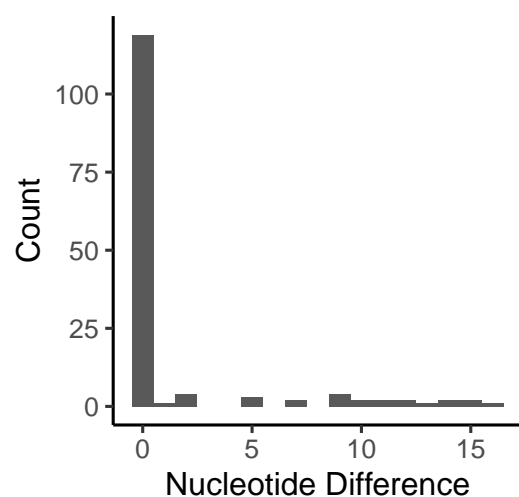
### IGHV3-69-1\*02

1 sequences assigned  
No exact matches.



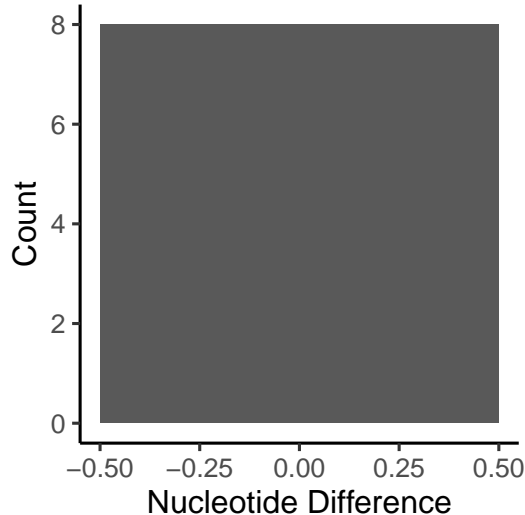
### IGHV3-73\*01\_02

146 sequences assigned  
119 (81.5%) exact matches, in which:  
71 unique CDR3  
5 unique J



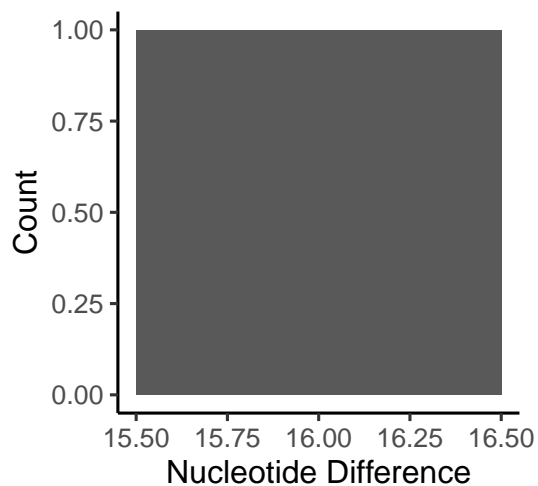
### IGHV3-64\*02\_07

8 sequences assigned  
8 (100%) exact matches, in which:  
5 unique CDR3  
2 unique J



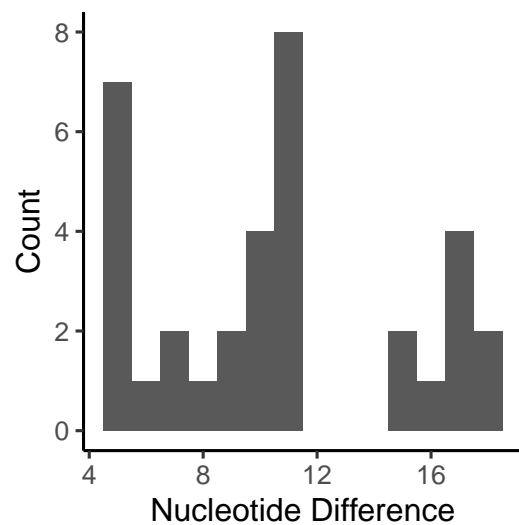
### IGHV3-71\*01\_04

1 sequences assigned  
No exact matches.



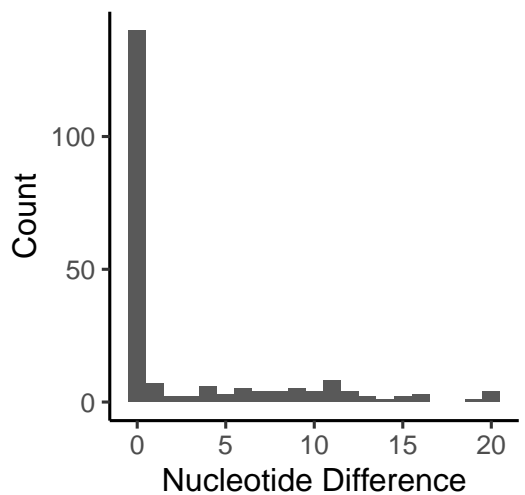
### IGHV3-74\*03

52 sequences assigned  
No exact matches.



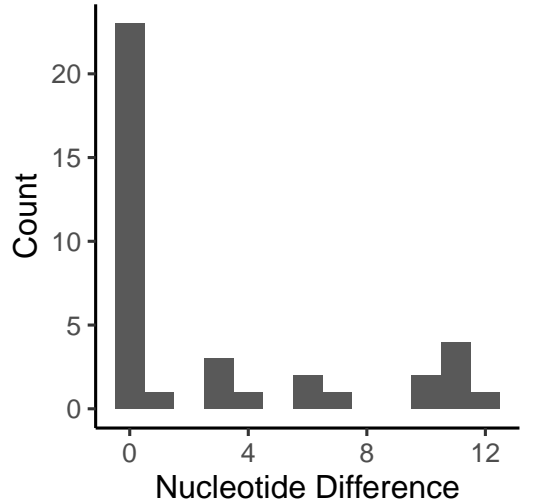
### IGHV3-66\*01

208 sequences assigned  
140 (67.3%) exact matches, in which:  
77 unique CDR3  
5 unique J



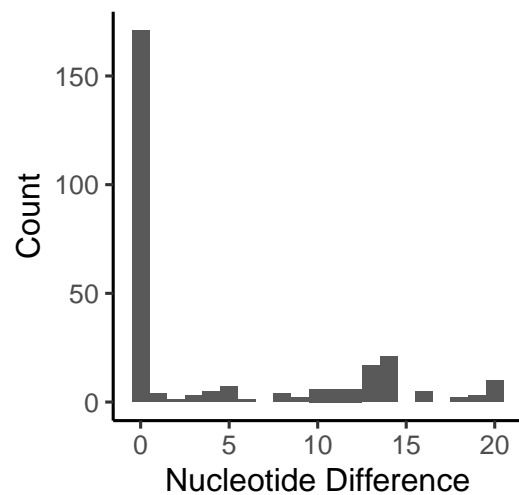
### IGHV3-72\*01

41 sequences assigned  
23 (56.1%) exact matches, in which:  
12 unique CDR3  
2 unique J



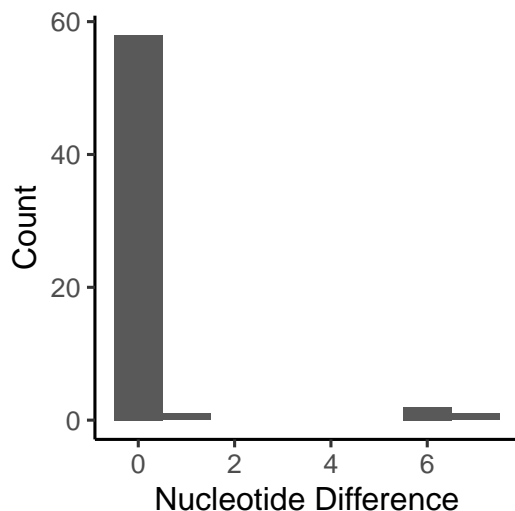
### IGHV3-74\*01\_02

288 sequences assigned  
171 (59.4%) exact matches, in which:  
94 unique CDR3  
5 unique J



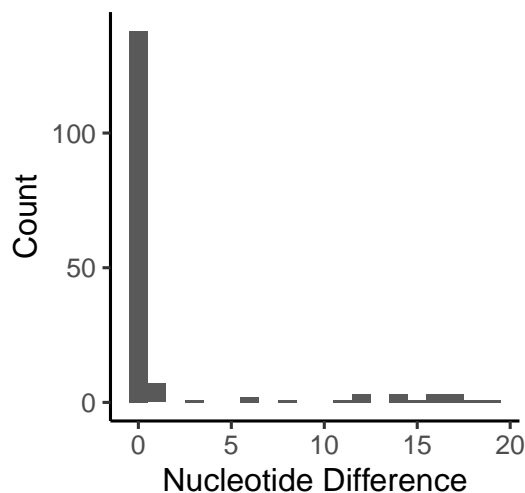
### IGHV3-43D\*03

62 sequences assigned  
58 (93.5%) exact matches, in which:  
34 unique CDR3  
4 unique J



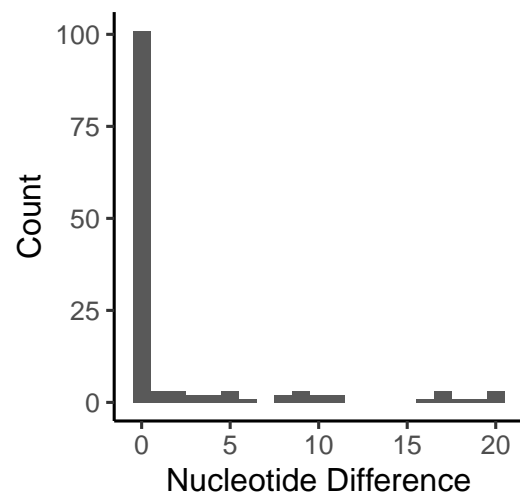
### IGHV4-4\*02\_03

176 sequences assigned  
138 (78.4%) exact matches, in which:  
126 unique CDR3  
6 unique J



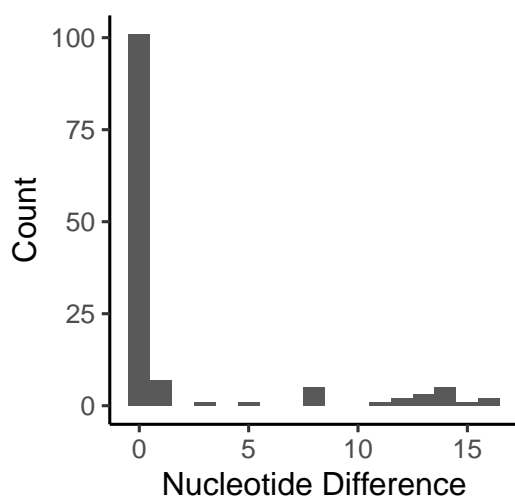
### IGHV4-30-2\*01

141 sequences assigned  
101 (71.6%) exact matches, in which:  
85 unique CDR3  
6 unique J



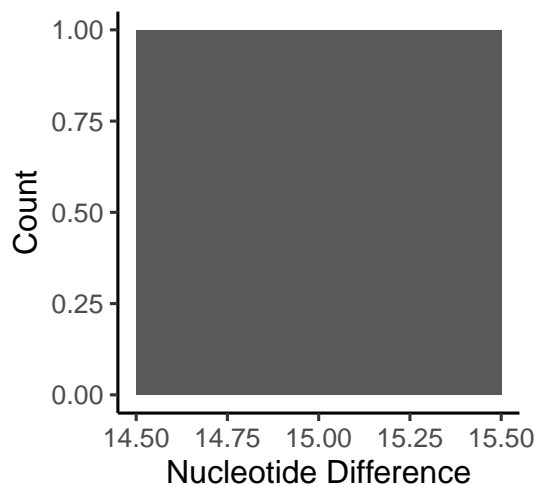
### IGHV3-64D\*06

159 sequences assigned  
101 (63.5%) exact matches, in which:  
56 unique CDR3  
5 unique J



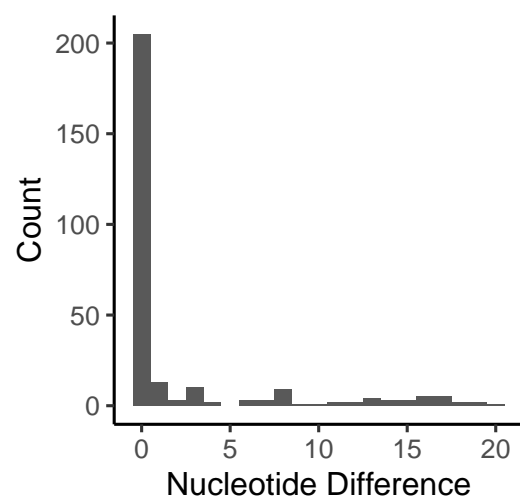
### IGHV4-28\*02\_05

1 sequences assigned  
No exact matches.



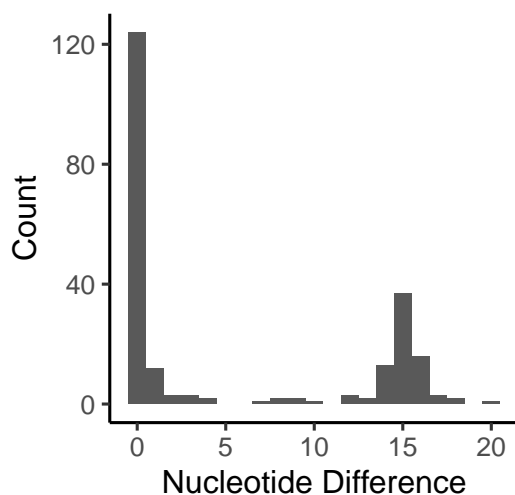
### IGHV4-31\*02

313 sequences assigned  
205 (65.5%) exact matches, in which:  
201 unique CDR3  
6 unique J



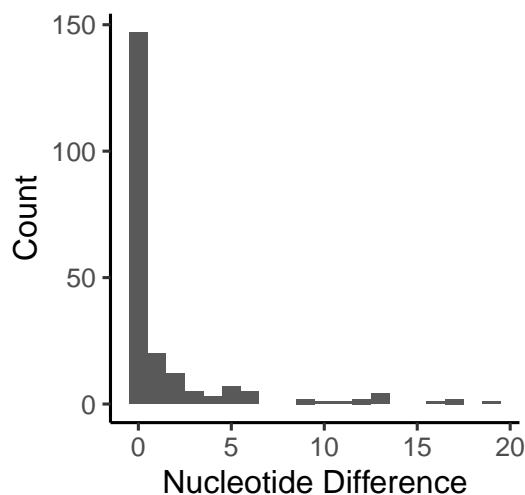
### IGHV4-4\*07

274 sequences assigned  
124 (45.3%) exact matches, in which:  
121 unique CDR3  
5 unique J



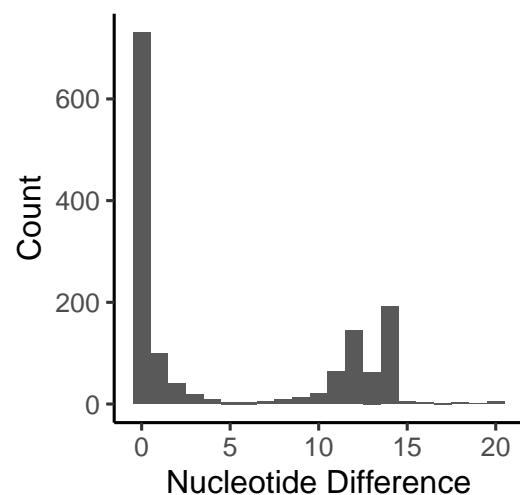
### IGHV4-30-4\*01

224 sequences assigned  
147 (65.6%) exact matches, in which:  
145 unique CDR3  
6 unique J



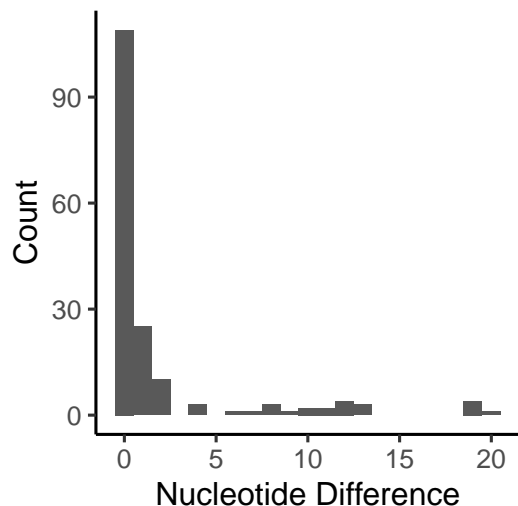
### IGHV4-34\*01\_02

1609 sequences assigned  
731 (45.4%) exact matches, in which:  
635 unique CDR3  
6 unique J



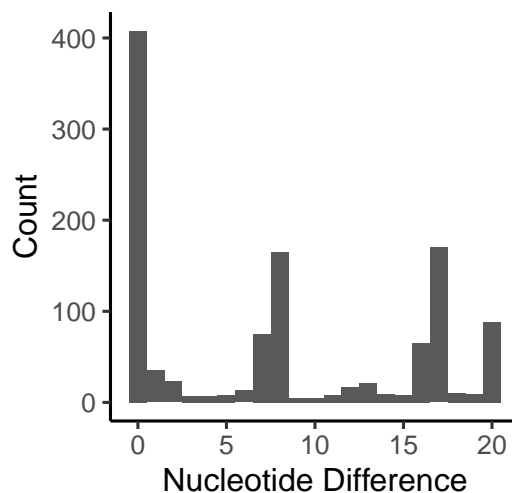
### IGHV4-38-2\*02

188 sequences assigned  
109 (58%) exact matches, in which:  
107 unique CDR3  
5 unique J



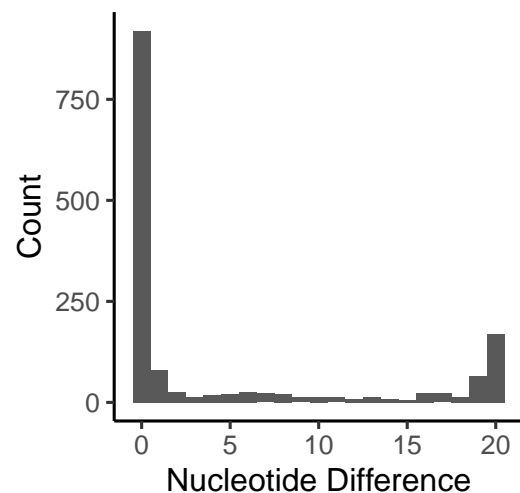
### IGHV4-59\*02\_G88A

2204 sequences assigned  
408 (18.5%) exact matches, in which:  
399 unique CDR3  
6 unique J



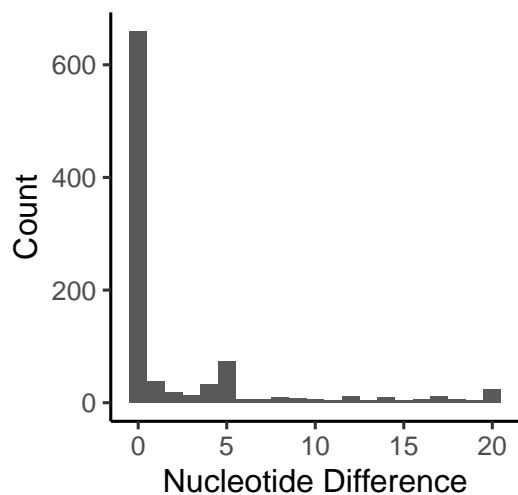
### IGHV5-51\*07\_A128G

1545 sequences assigned  
920 (59.5%) exact matches, in which:  
551 unique CDR3  
6 unique J



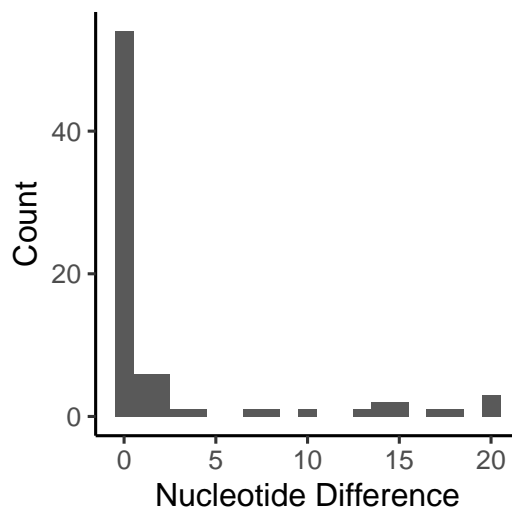
### IGHV4-39\*02\_C258G

1339 sequences assigned  
660 (49.3%) exact matches, in which:  
647 unique CDR3  
6 unique J



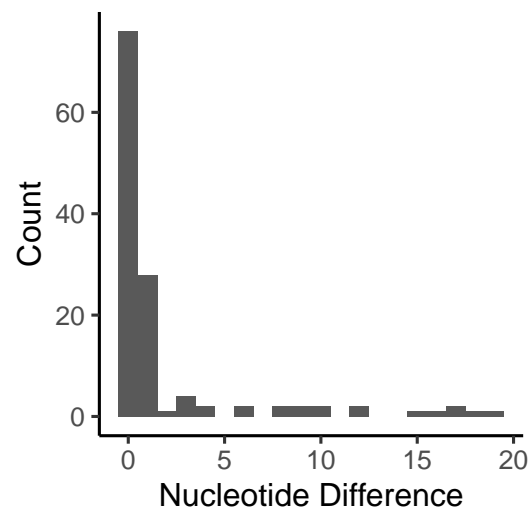
### IGHV4-61\*01

297 sequences assigned  
54 (18.2%) exact matches, in which:  
54 unique CDR3  
6 unique J



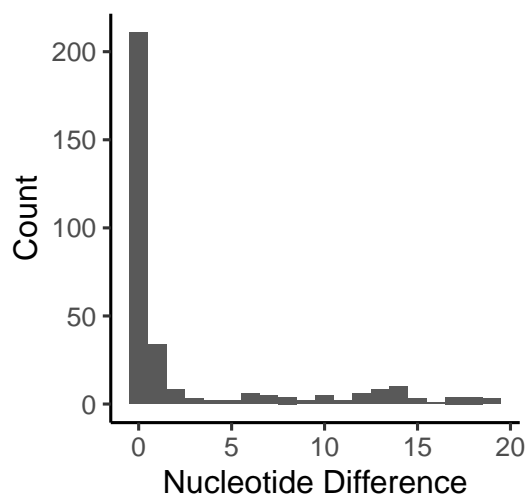
### IGHV6-1\*01\_02

128 sequences assigned  
76 (59.4%) exact matches, in which:  
76 unique CDR3  
6 unique J



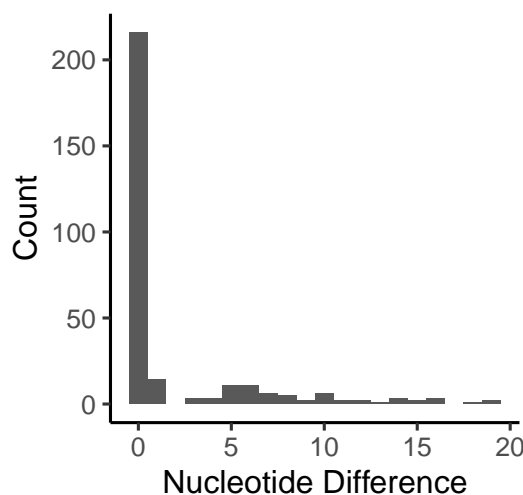
### IGHV4-59\*08

348 sequences assigned  
211 (60.6%) exact matches, in which:  
207 unique CDR3  
6 unique J



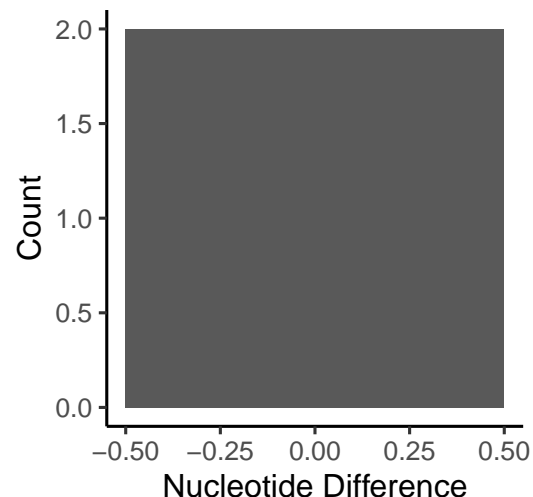
### IGHV5-10-1\*01\_03

323 sequences assigned  
216 (66.9%) exact matches, in which:  
139 unique CDR3  
5 unique J



### IGHV7-4-1\*01

2 sequences assigned  
2 (100%) exact matches, in which:  
2 unique CDR3  
1 unique J







Warning – no inferred sequences found.