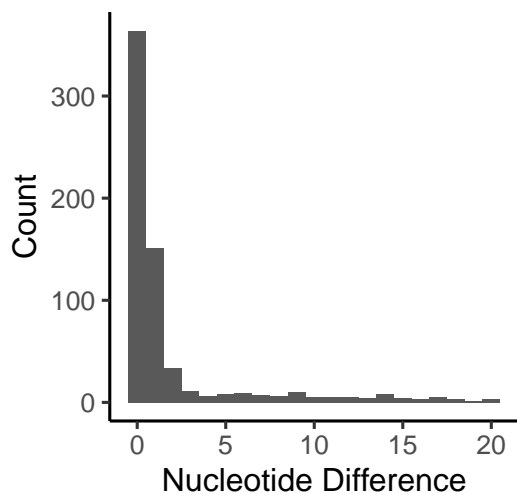


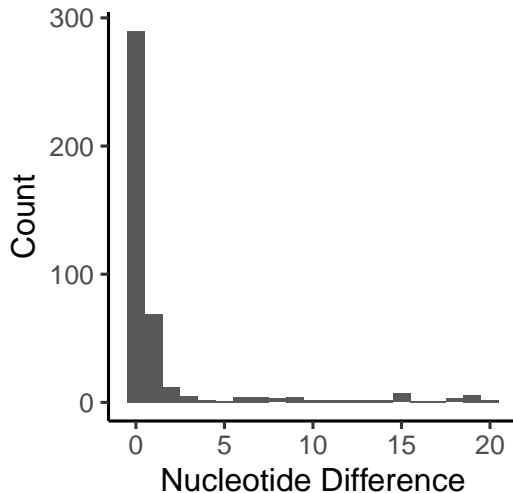
### IGHV1-2\*02

673 sequences assigned  
364 (54.1%) exact matches, in which:  
349 unique CDR3  
6 unique J



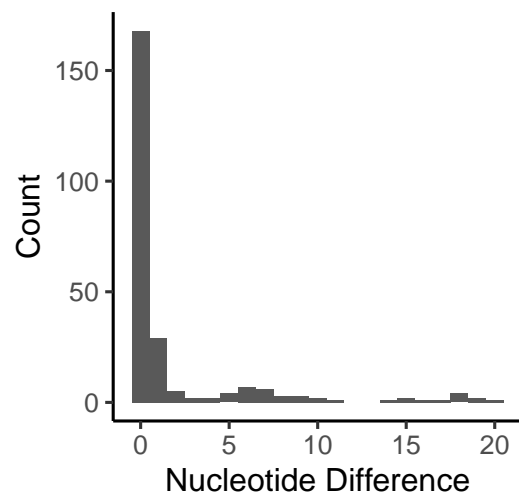
### IGHV1-18\*01

440 sequences assigned  
290 (65.9%) exact matches, in which:  
282 unique CDR3  
6 unique J



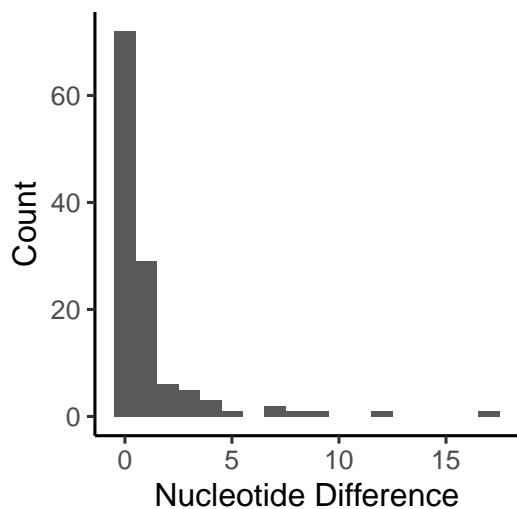
### IGHV1-46\*01

248 sequences assigned  
168 (67.7%) exact matches, in which:  
165 unique CDR3  
6 unique J



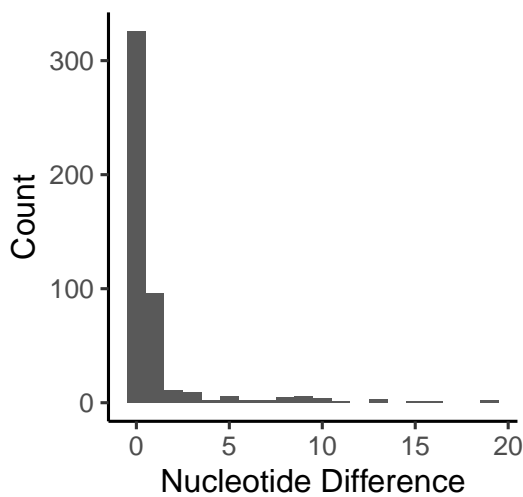
### IGHV1-2\*04

123 sequences assigned  
72 (58.5%) exact matches, in which:  
69 unique CDR3  
5 unique J



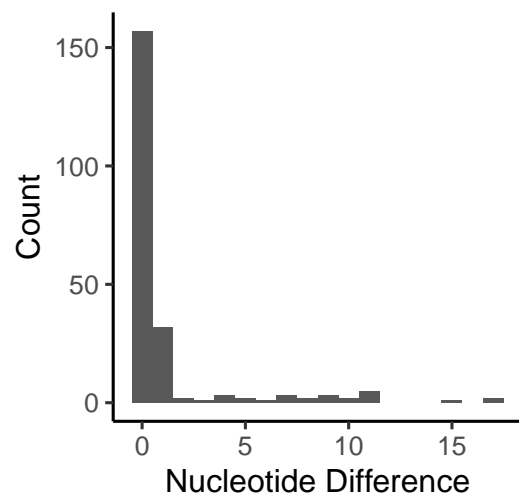
### IGHV1-18\*04

487 sequences assigned  
326 (66.9%) exact matches, in which:  
321 unique CDR3  
6 unique J



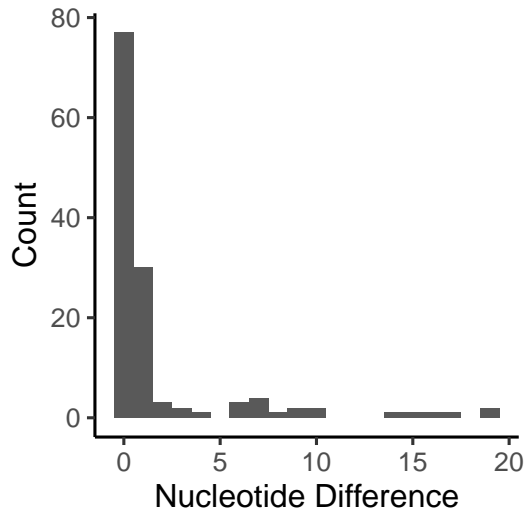
### IGHV1-46\*03

222 sequences assigned  
157 (70.7%) exact matches, in which:  
154 unique CDR3  
6 unique J



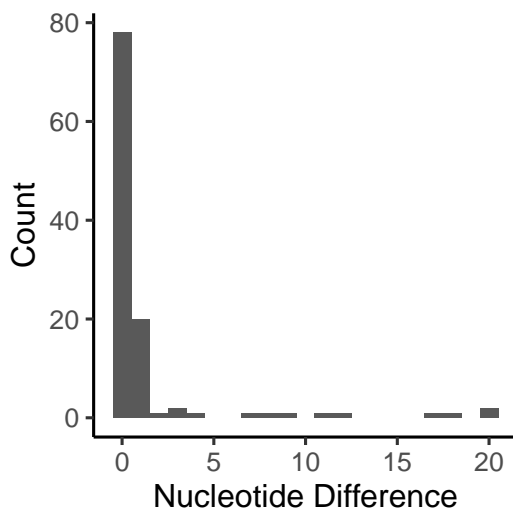
### IGHV1-3\*01

146 sequences assigned  
77 (52.7%) exact matches, in which:  
77 unique CDR3  
5 unique J



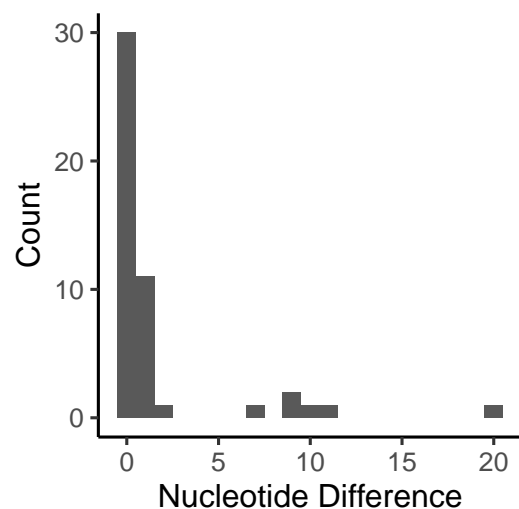
### IGHV1-24\*01

116 sequences assigned  
78 (67.2%) exact matches, in which:  
78 unique CDR3  
5 unique J



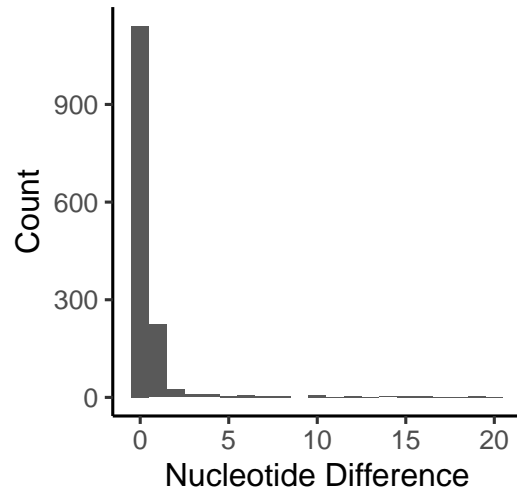
### IGHV1-58\*01

48 sequences assigned  
30 (62.5%) exact matches, in which:  
30 unique CDR3  
4 unique J



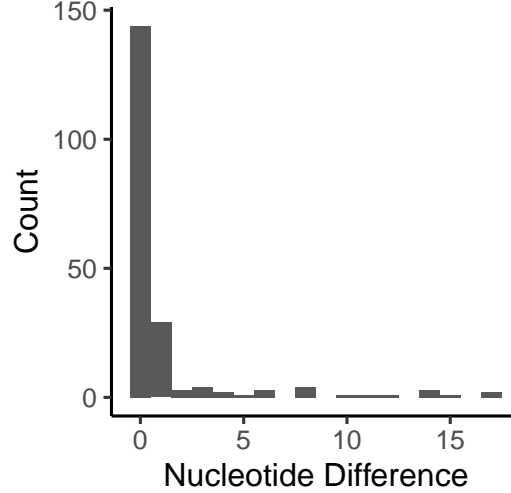
### IGHV1–69\*01

1488 sequences assigned  
1142 (76.7%) exact matches, in which:  
1116 unique CDR3  
6 unique J



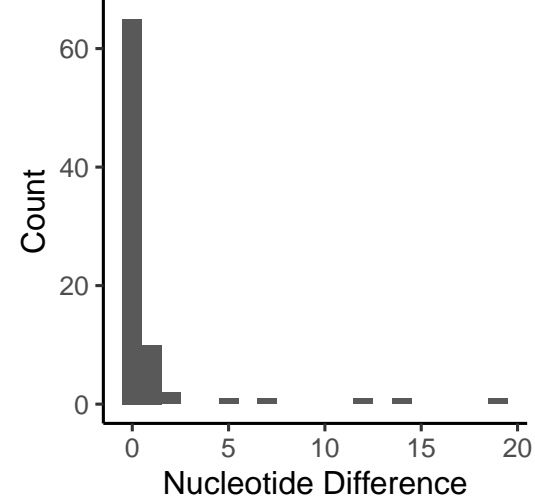
### IGHV2–5\*01

201 sequences assigned  
144 (71.6%) exact matches, in which:  
143 unique CDR3  
6 unique J



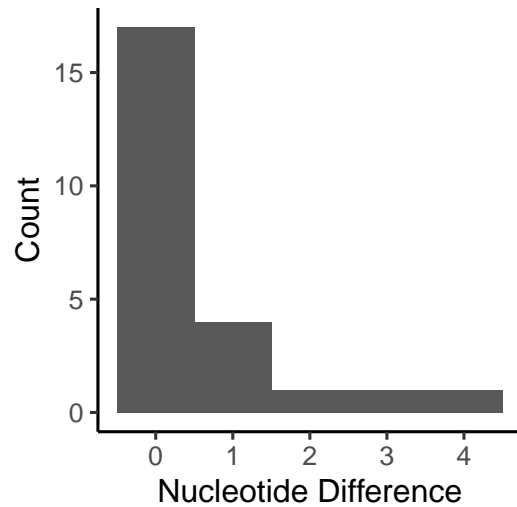
### IGHV2–70\*01

82 sequences assigned  
65 (79.3%) exact matches, in which:  
65 unique CDR3  
5 unique J



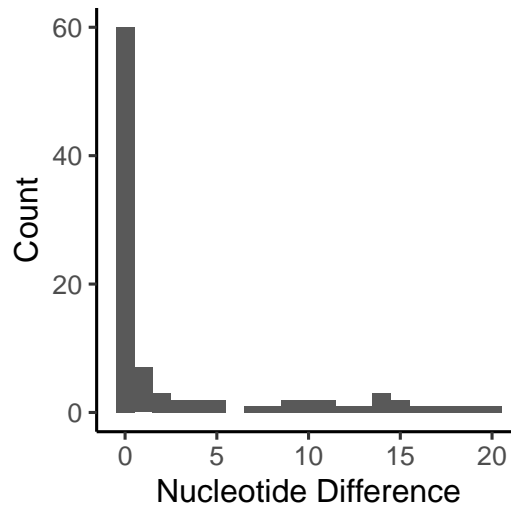
### IGHV1–69–2\*01

25 sequences assigned  
17 (68%) exact matches, in which:  
17 unique CDR3  
4 unique J



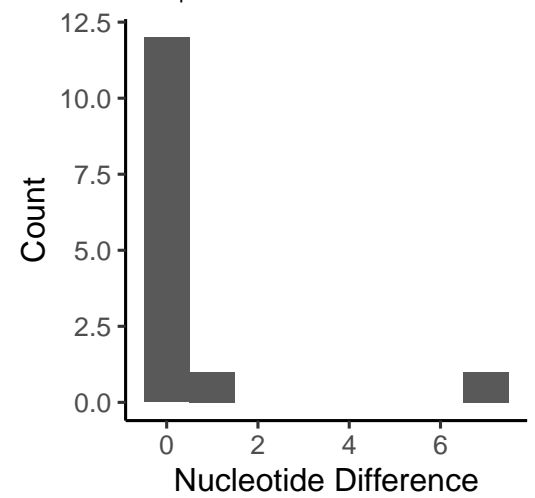
### IGHV2–5\*02

101 sequences assigned  
60 (59.4%) exact matches, in which:  
57 unique CDR3  
5 unique J



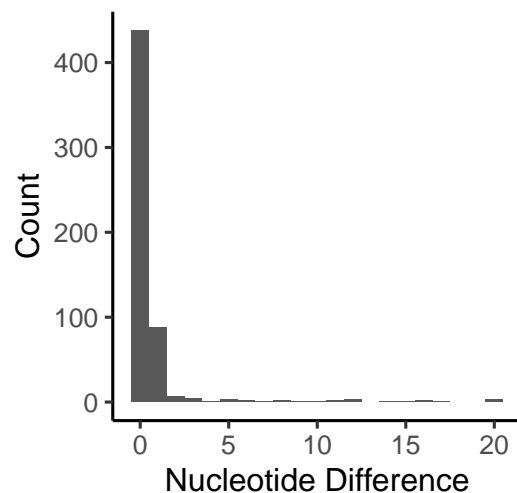
### IGHV2–70\*04

14 sequences assigned  
12 (85.7%) exact matches, in which:  
12 unique CDR3  
3 unique J



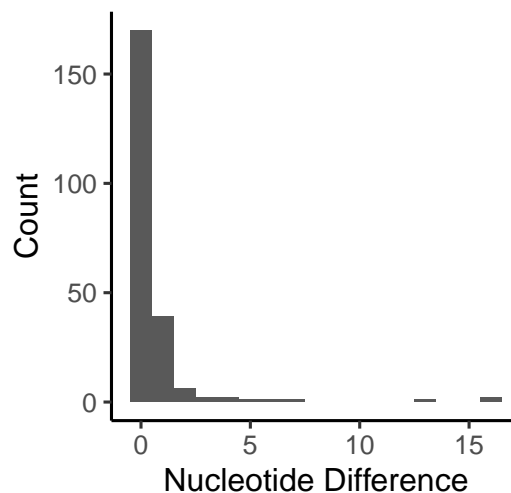
### IGHV1–69\*06

569 sequences assigned  
438 (77%) exact matches, in which:  
420 unique CDR3  
6 unique J



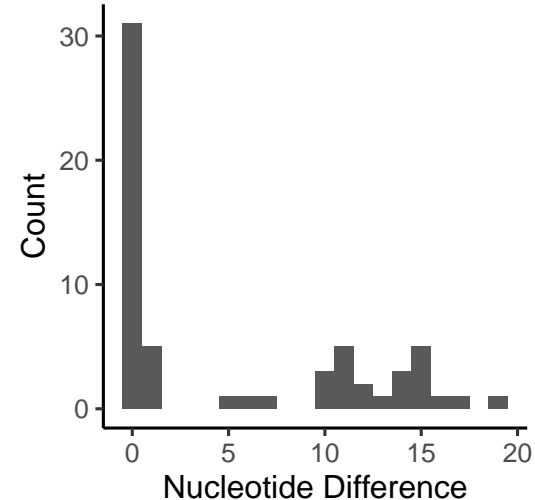
### IGHV2–26\*01

227 sequences assigned  
170 (74.9%) exact matches, in which:  
168 unique CDR3  
6 unique J



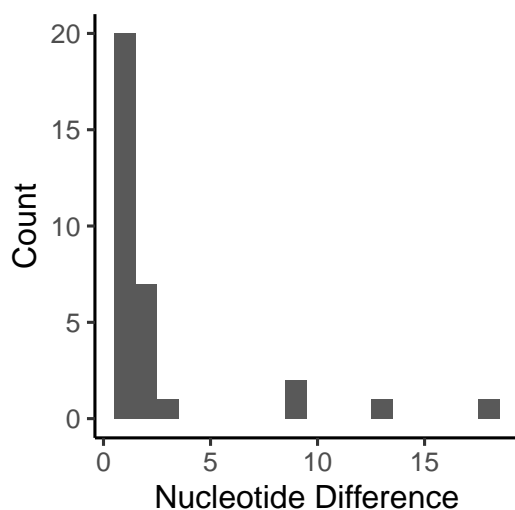
### IGHV3–7\*01

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



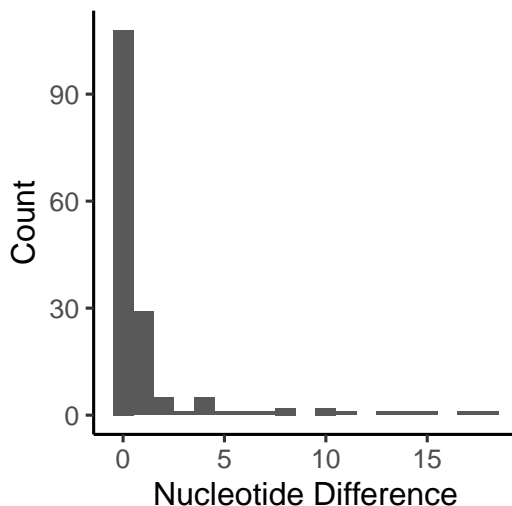
### IGHV3-7\*04

33 sequences assigned  
No exact matches.



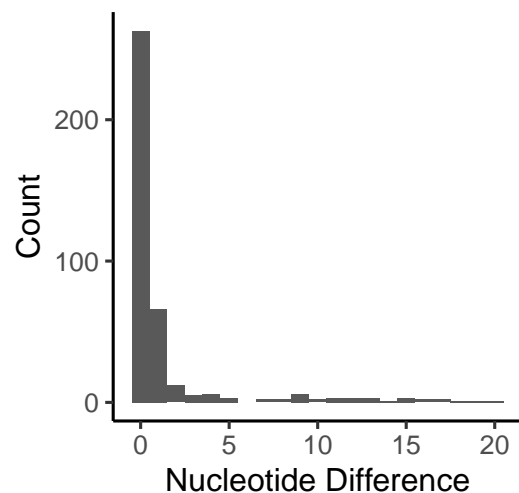
### IGHV3-11\*06

163 sequences assigned  
108 (66.3%) exact matches, in which:  
105 unique CDR3  
5 unique J



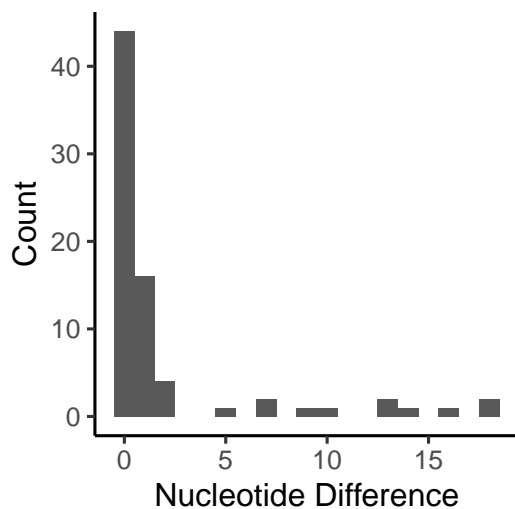
### IGHV3-15\*01

396 sequences assigned  
263 (66.4%) exact matches, in which:  
262 unique CDR3  
6 unique J



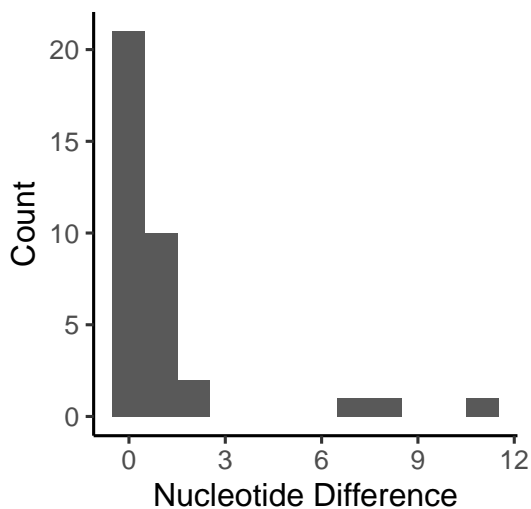
### IGHV3-7\*05

77 sequences assigned  
44 (57.1%) exact matches, in which:  
43 unique CDR3  
5 unique J



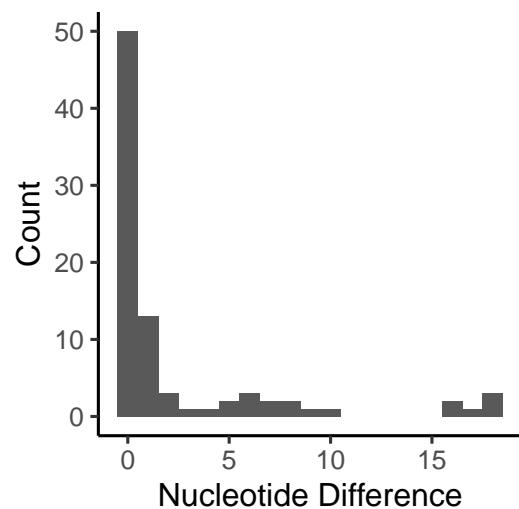
### IGHV3-13\*04

36 sequences assigned  
21 (58.3%) exact matches, in which:  
21 unique CDR3  
4 unique J



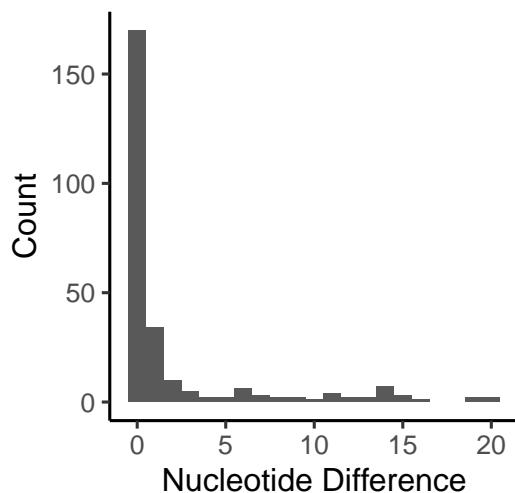
### IGHV3-20\*04

85 sequences assigned  
50 (58.8%) exact matches, in which:  
50 unique CDR3  
4 unique J



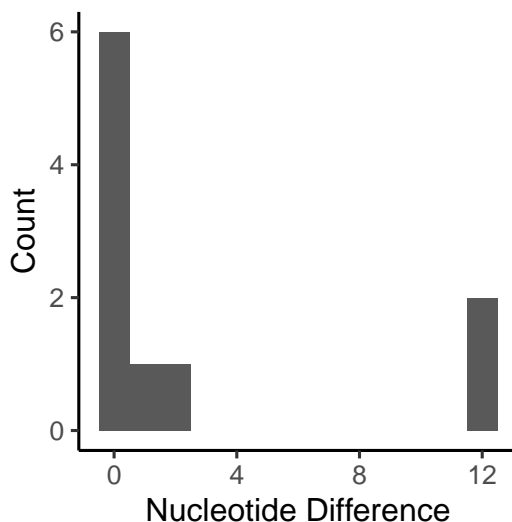
### IGHV3-11\*05

272 sequences assigned  
170 (62.5%) exact matches, in which:  
169 unique CDR3  
6 unique J



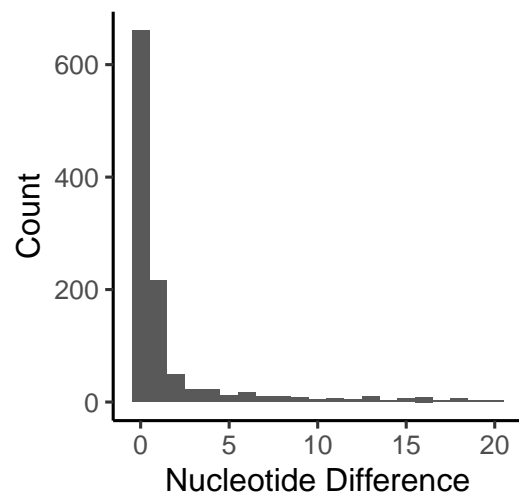
### IGHV3-13\*05

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



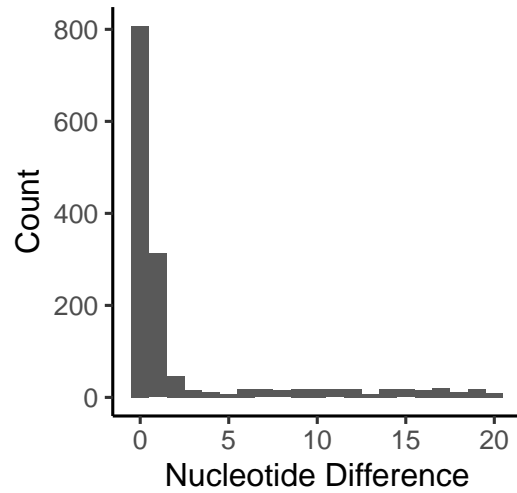
### IGHV3-21\*01

1109 sequences assigned  
661 (59.6%) exact matches, in which:  
643 unique CDR3  
6 unique J



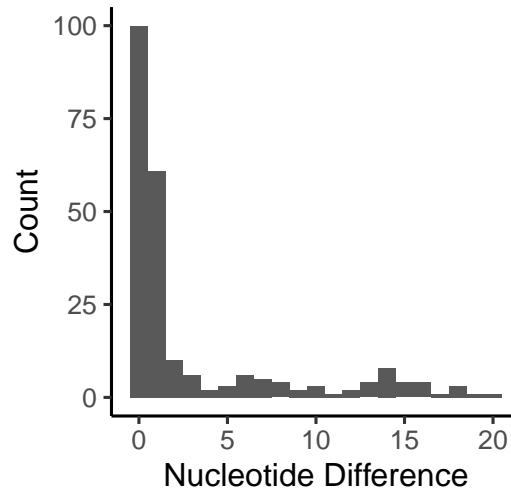
### IGHV3–23\*01

1553 sequences assigned  
808 (52%) exact matches, in which:  
793 unique CDR3  
6 unique J



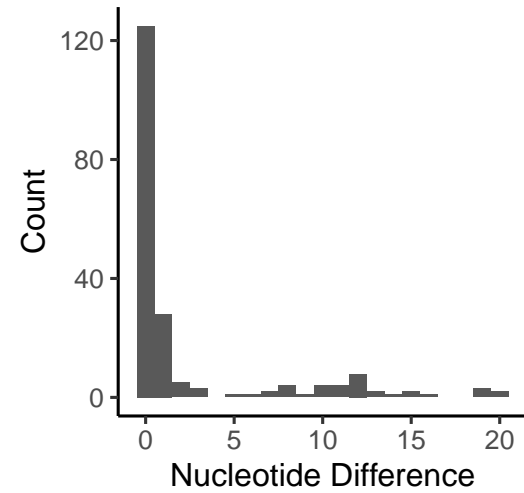
### IGHV3–30\*18

239 sequences assigned  
100 (41.8%) exact matches, in which:  
96 unique CDR3  
5 unique J



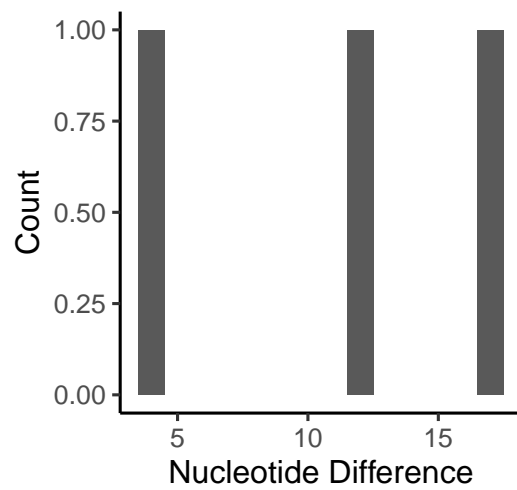
### IGHV3–48\*01

204 sequences assigned  
125 (61.3%) exact matches, in which:  
123 unique CDR3  
6 unique J



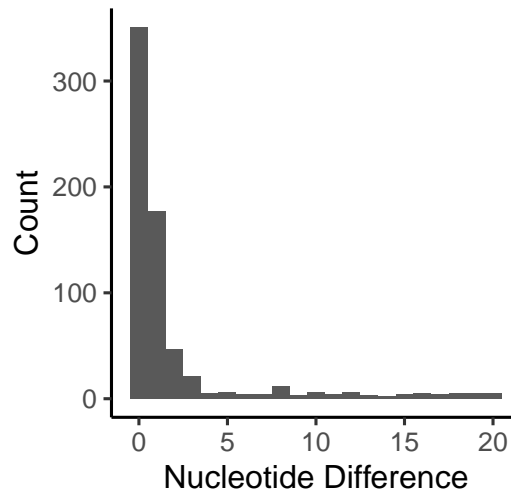
### IGHV3–30–3\*01

7 sequences assigned  
No exact matches.



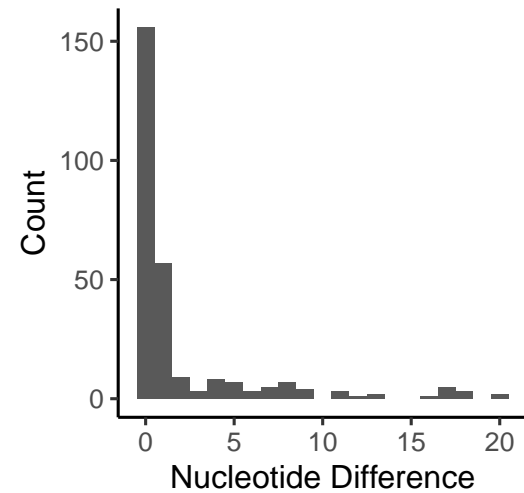
### IGHV3–33\*01

695 sequences assigned  
351 (50.5%) exact matches, in which:  
340 unique CDR3  
6 unique J



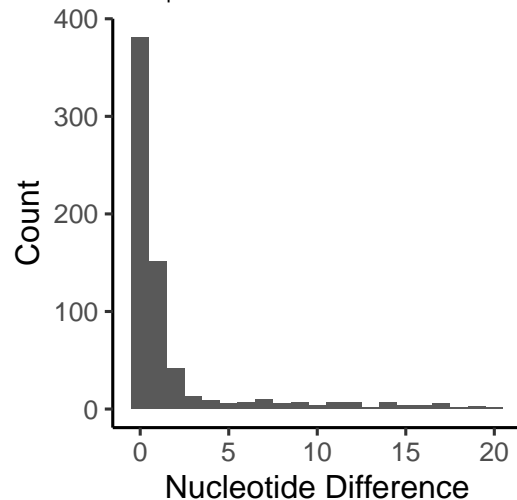
### IGHV3–48\*03

290 sequences assigned  
156 (53.8%) exact matches, in which:  
154 unique CDR3  
6 unique J



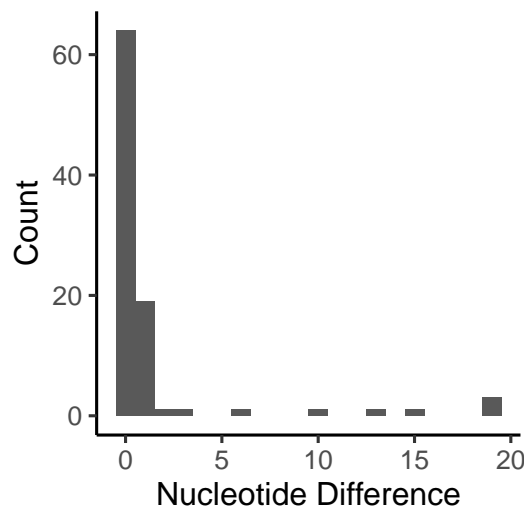
### IGHV3–30\*04

698 sequences assigned  
381 (54.6%) exact matches, in which:  
375 unique CDR3  
6 unique J



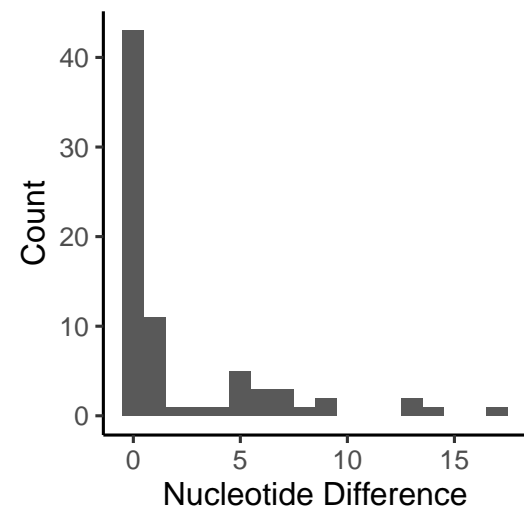
### IGHV3–43\*02

95 sequences assigned  
64 (67.4%) exact matches, in which:  
63 unique CDR3  
6 unique J



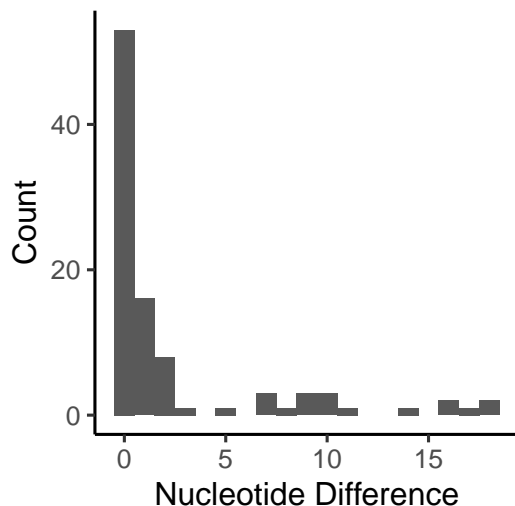
### IGHV3–49\*03

76 sequences assigned  
43 (56.6%) exact matches, in which:  
43 unique CDR3  
4 unique J



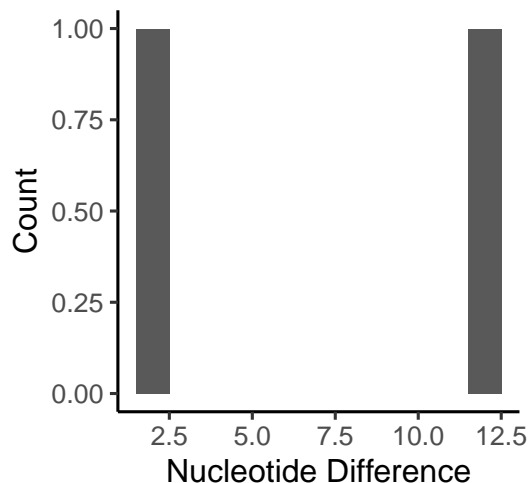
### IGHV3-49\*04

103 sequences assigned  
53 (51.5%) exact matches, in which:  
52 unique CDR3  
4 unique J



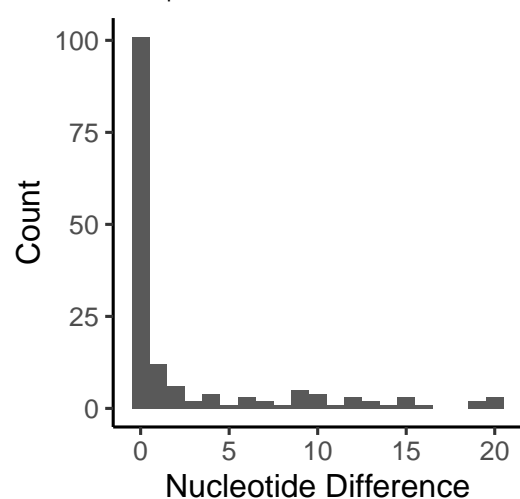
### IGHV3-66\*03

2 sequences assigned  
No exact matches.



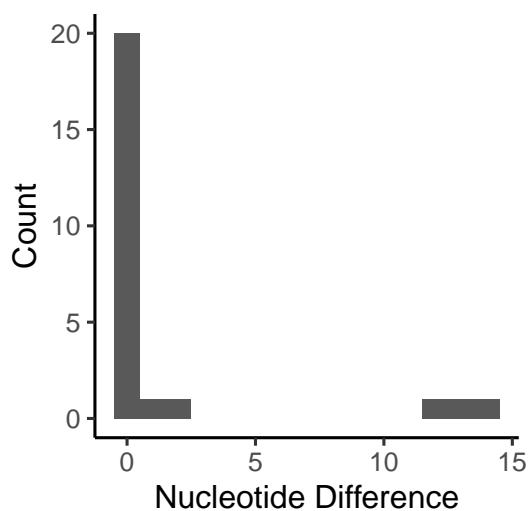
### IGHV3-74\*01

163 sequences assigned  
101 (62%) exact matches, in which:  
101 unique CDR3  
6 unique J



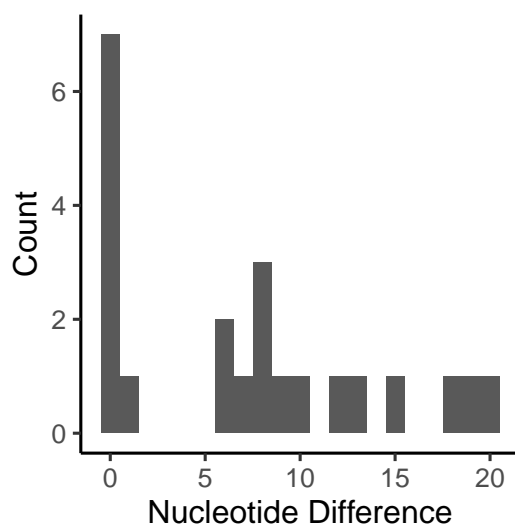
### IGHV3-53\*04

26 sequences assigned  
20 (76.9%) exact matches, in which:  
19 unique CDR3  
5 unique J



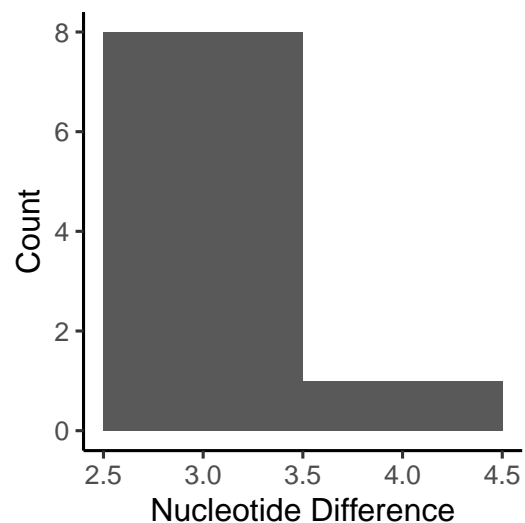
### IGHV3-72\*01

24 sequences assigned  
7 (29.2%) exact matches, in which:  
7 unique CDR3  
3 unique J



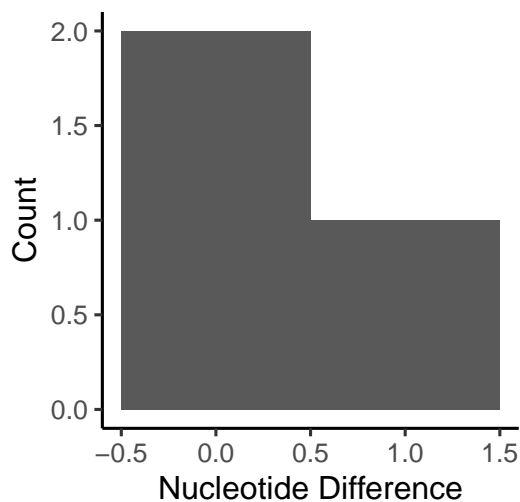
### IGHV3-43D\*04

9 sequences assigned  
No exact matches.



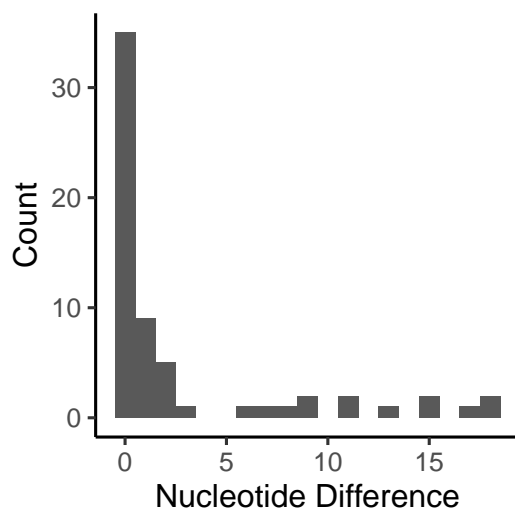
### IGHV3-64\*02

3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
1 unique J



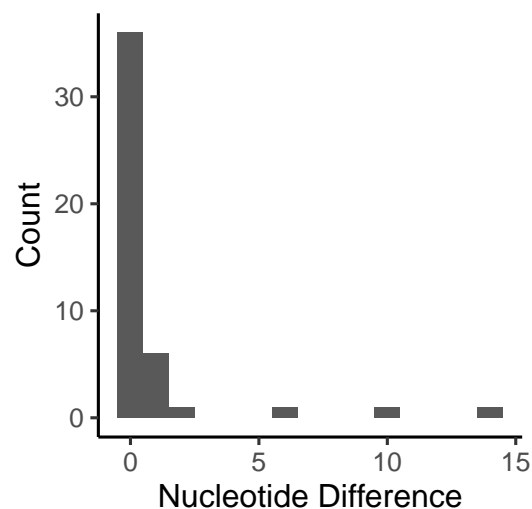
### IGHV3-73\*02

65 sequences assigned  
35 (53.8%) exact matches, in which:  
33 unique CDR3  
4 unique J



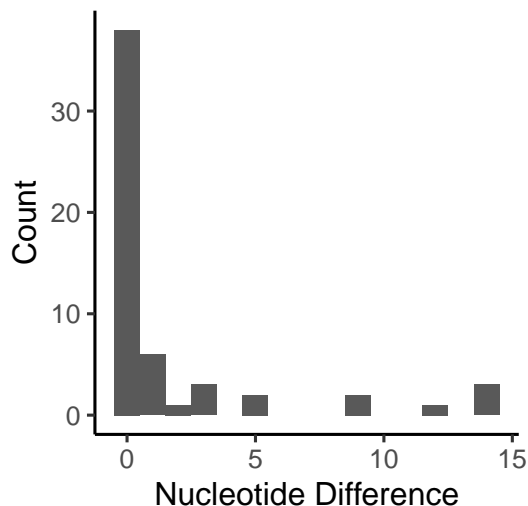
### IGHV3-64D\*06

49 sequences assigned  
36 (73.5%) exact matches, in which:  
35 unique CDR3  
5 unique J



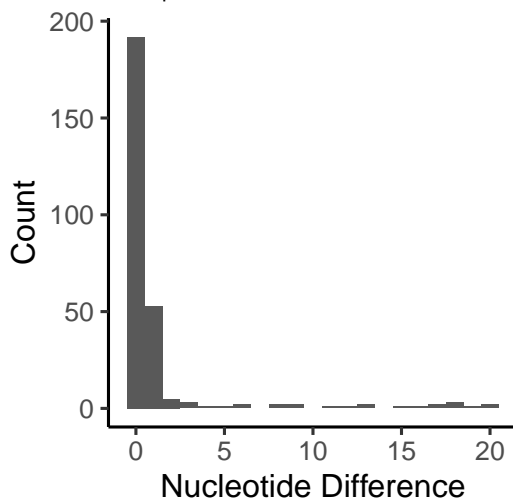
### IGHV3–64D\*08

58 sequences assigned  
38 (65.5%) exact matches, in which:  
36 unique CDR3  
5 unique J



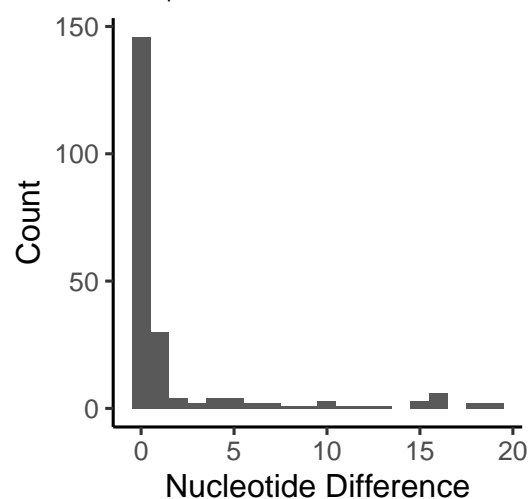
### IGHV4–31\*03

282 sequences assigned  
192 (68.1%) exact matches, in which:  
192 unique CDR3  
6 unique J



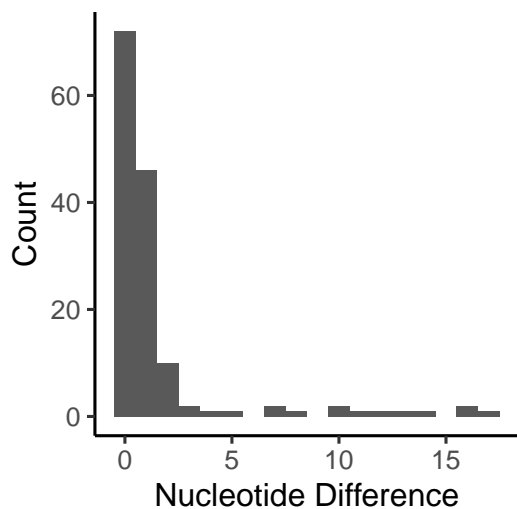
### IGHV4–59\*01

226 sequences assigned  
146 (64.6%) exact matches, in which:  
146 unique CDR3  
5 unique J



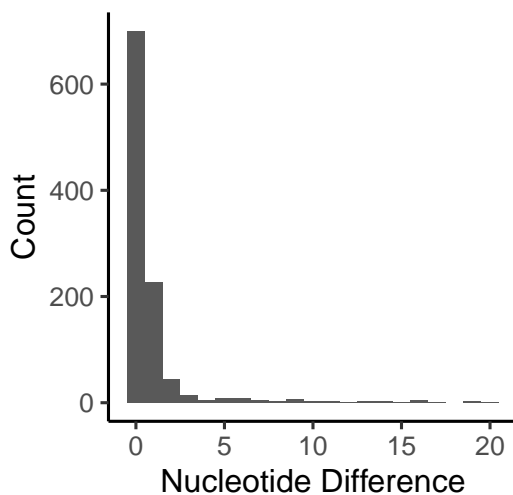
### IGHV4–4\*02

152 sequences assigned  
72 (47.4%) exact matches, in which:  
72 unique CDR3  
5 unique J



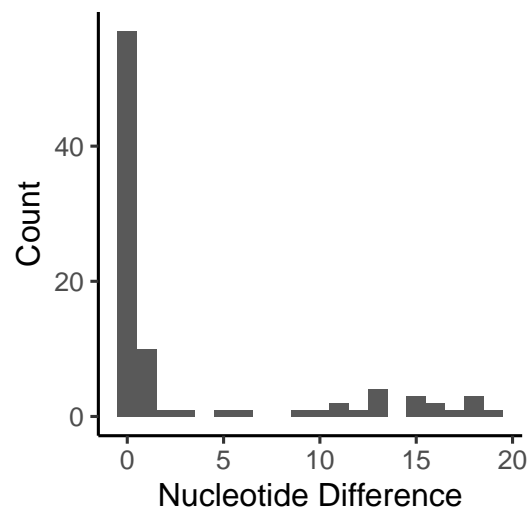
### IGHV4–34\*01

1067 sequences assigned  
700 (65.6%) exact matches, in which:  
687 unique CDR3  
6 unique J



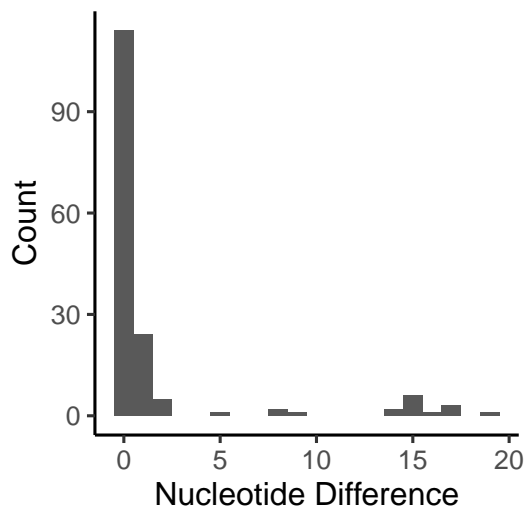
### IGHV4–61\*01

93 sequences assigned  
57 (61.3%) exact matches, in which:  
56 unique CDR3  
5 unique J



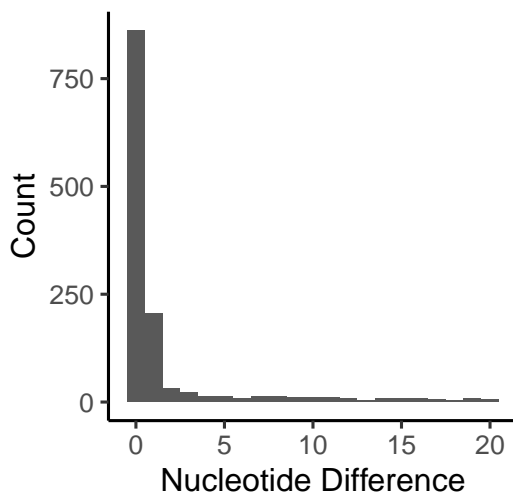
### IGHV4–4\*07

164 sequences assigned  
114 (69.5%) exact matches, in which:  
113 unique CDR3  
5 unique J



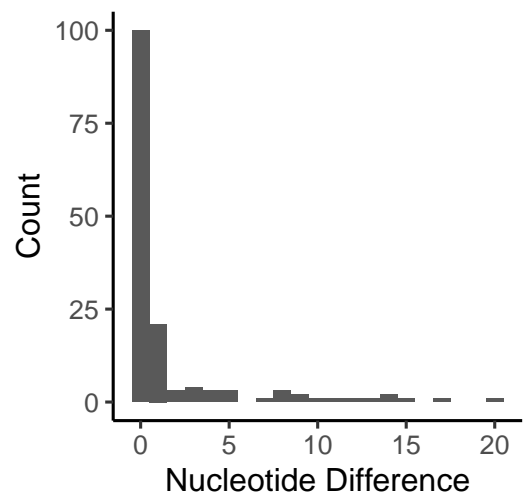
### IGHV4–39\*01

1306 sequences assigned  
862 (66%) exact matches, in which:  
844 unique CDR3  
6 unique J



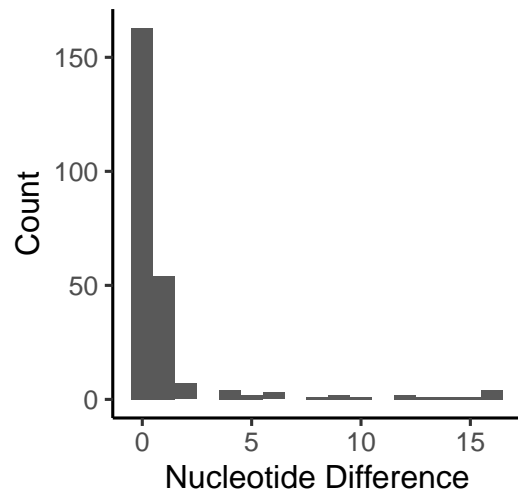
### IGHV5–10–1\*01

165 sequences assigned  
100 (60.6%) exact matches, in which:  
97 unique CDR3  
6 unique J



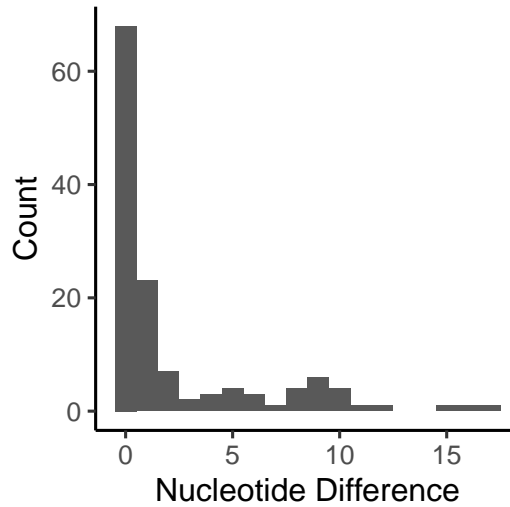
### IGHV5-10-1\*03

256 sequences assigned  
163 (63.7%) exact matches, in which:  
163 unique CDR3  
6 unique J



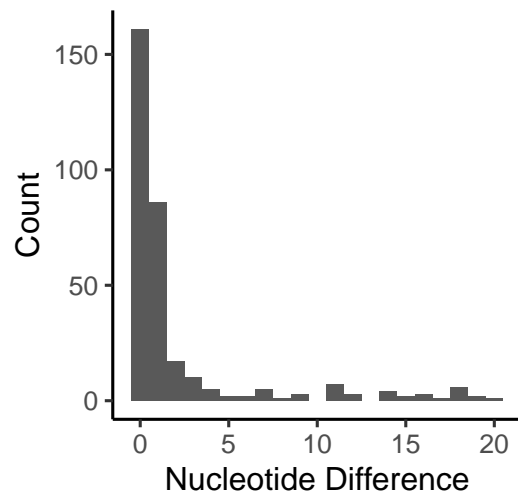
### IGHV6-1\*01

138 sequences assigned  
68 (49.3%) exact matches, in which:  
68 unique CDR3  
4 unique J



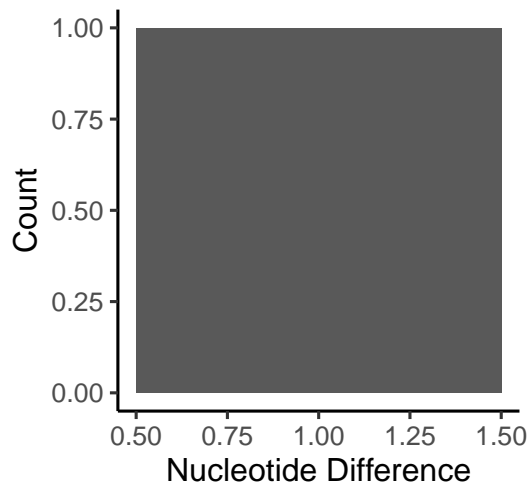
### IGHV5-51\*01

329 sequences assigned  
161 (48.9%) exact matches, in which:  
161 unique CDR3  
6 unique J



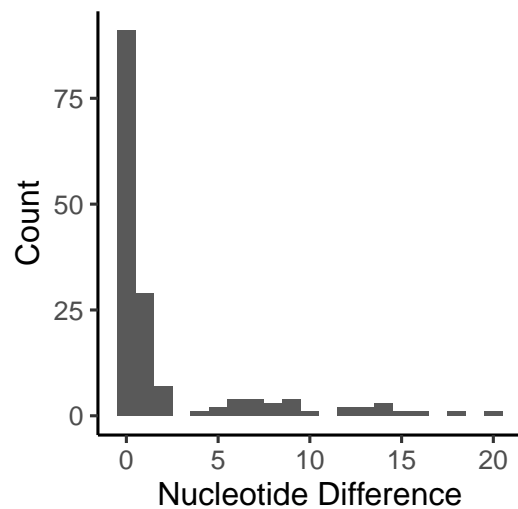
### IGHV7-4-1\*01

1 sequences assigned  
No exact matches.



### IGHV5-51\*03

161 sequences assigned  
91 (56.5%) exact matches, in which:  
89 unique CDR3  
5 unique J







Warning – no inferred sequences found.