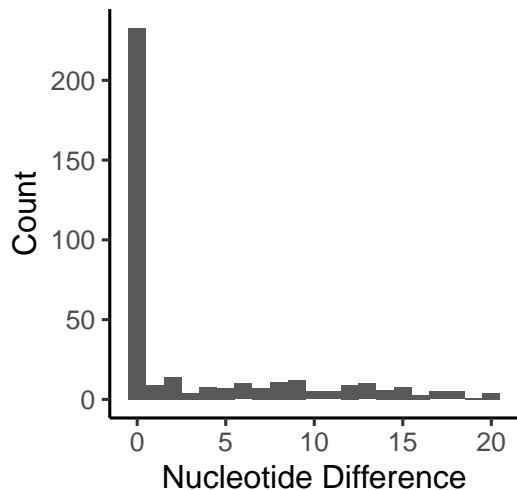


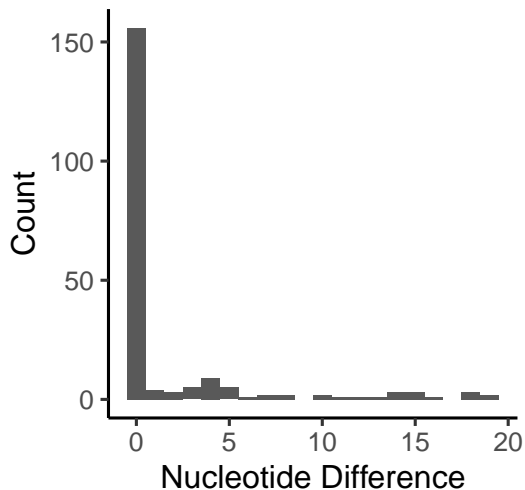
### IGHV1-2\*02

392 sequences assigned  
233 (59.4%) exact matches, in which:  
233 unique CDR3  
6 unique J



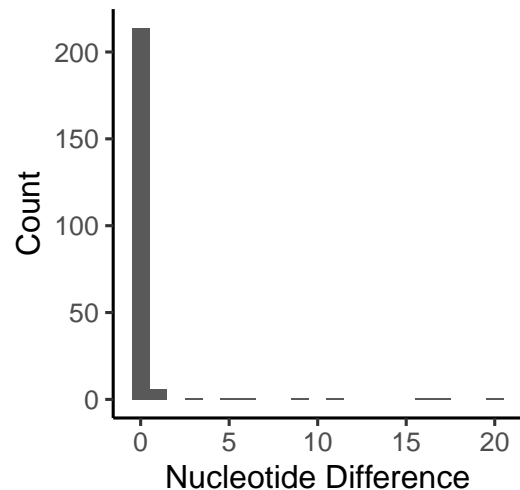
### IGHV1-8\*01

207 sequences assigned  
156 (75.4%) exact matches, in which:  
154 unique CDR3  
5 unique J



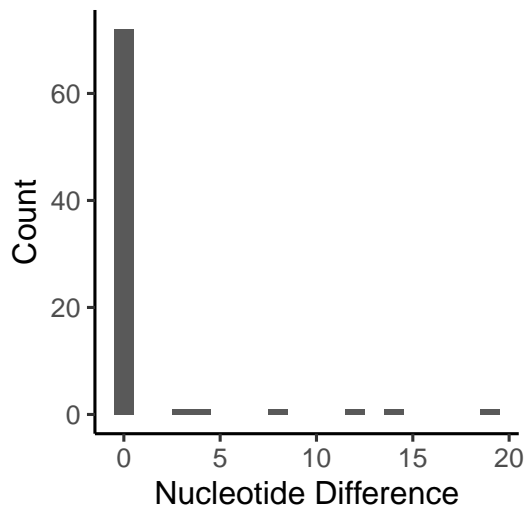
### IGHV1-24\*01

231 sequences assigned  
214 (92.6%) exact matches, in which:  
213 unique CDR3  
6 unique J



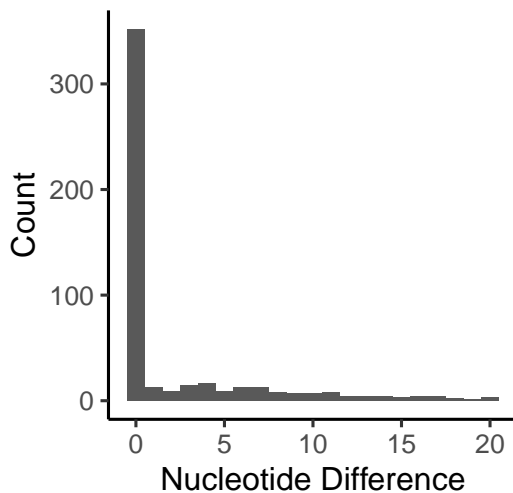
### IGHV1-2\*04

80 sequences assigned  
72 (90%) exact matches, in which:  
72 unique CDR3  
5 unique J



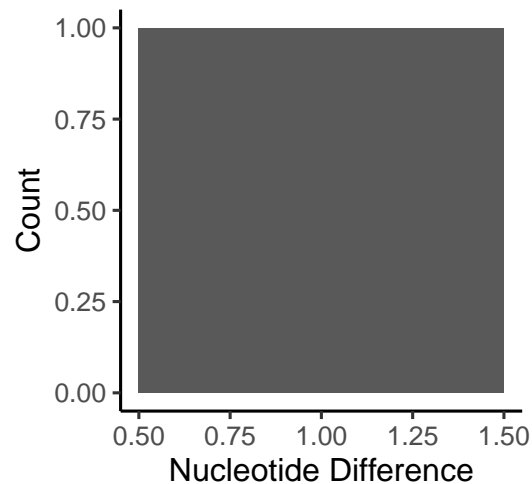
### IGHV1-18\*01

514 sequences assigned  
352 (68.5%) exact matches, in which:  
352 unique CDR3  
6 unique J



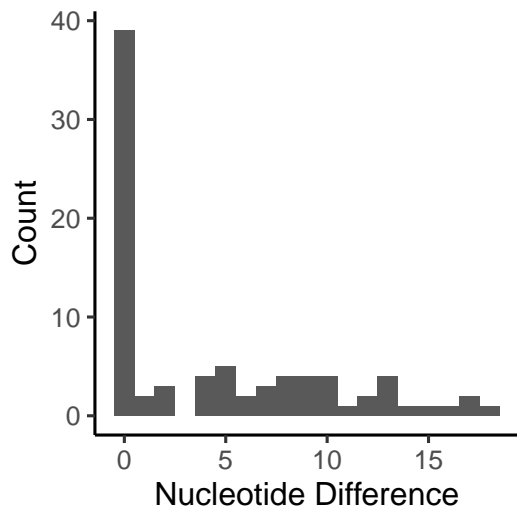
### IGHV1-45\*02

1 sequences assigned  
No exact matches.



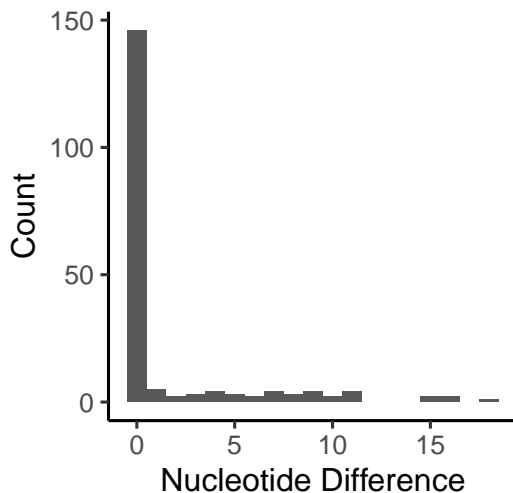
### IGHV1-3\*01\_05

90 sequences assigned  
39 (43.3%) exact matches, in which:  
39 unique CDR3  
6 unique J



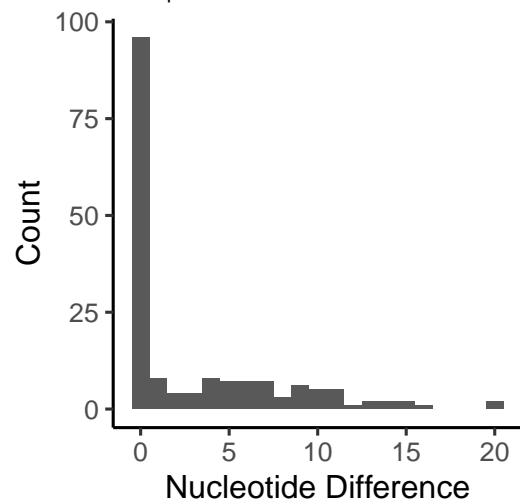
### IGHV1-18\*04

191 sequences assigned  
146 (76.4%) exact matches, in which:  
146 unique CDR3  
6 unique J



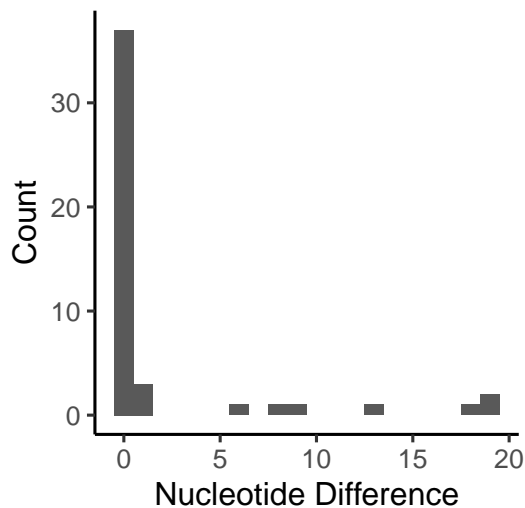
### IGHV1-46\*01

180 sequences assigned  
96 (53.3%) exact matches, in which:  
96 unique CDR3  
6 unique J



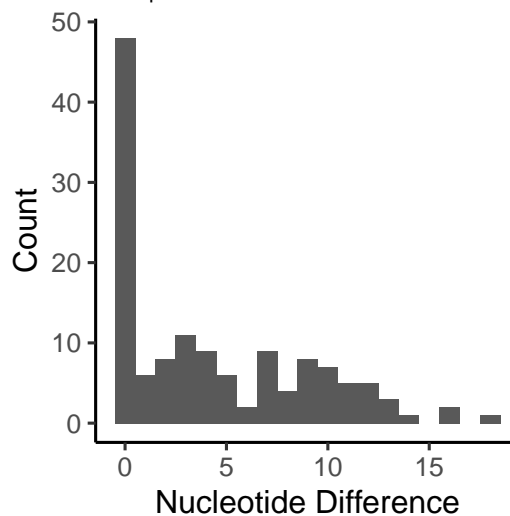
### IGHV1-58\*01\_03

48 sequences assigned  
37 (77.1%) exact matches, in which:  
37 unique CDR3  
6 unique J



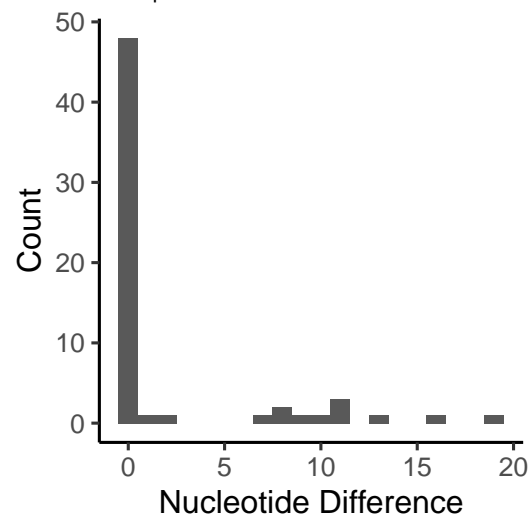
### IGHV2-5\*01

140 sequences assigned  
48 (34.3%) exact matches, in which:  
48 unique CDR3  
5 unique J



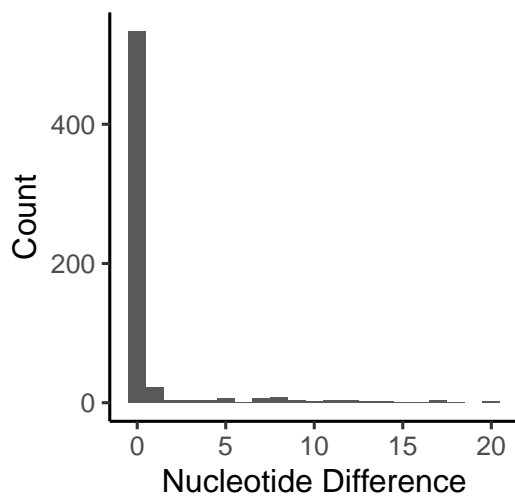
### IGHV2-70\*01

61 sequences assigned  
48 (78.7%) exact matches, in which:  
47 unique CDR3  
4 unique J



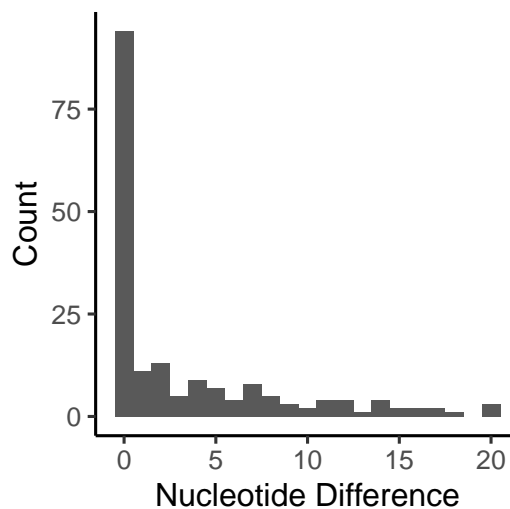
### IGHV1-69\*01\_12\_13

619 sequences assigned  
534 (86.3%) exact matches, in which:  
530 unique CDR3  
6 unique J



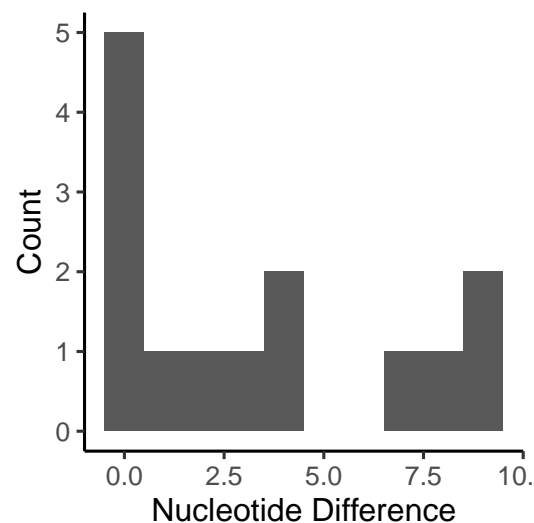
### IGHV2-5\*02

191 sequences assigned  
94 (49.2%) exact matches, in which:  
93 unique CDR3  
6 unique J



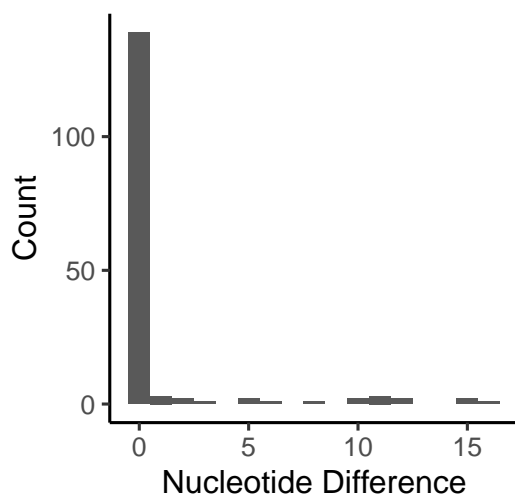
### IGHV2-70\*04

14 sequences assigned  
5 (35.7%) exact matches, in which:  
5 unique CDR3  
2 unique J



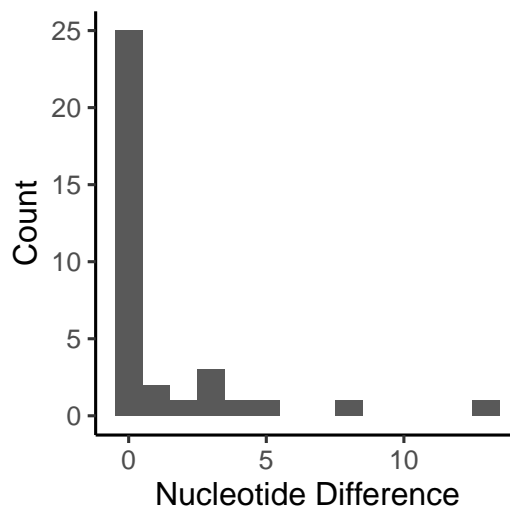
### IGHV1-69\*06\_14

160 sequences assigned  
139 (86.9%) exact matches, in which:  
139 unique CDR3  
6 unique J



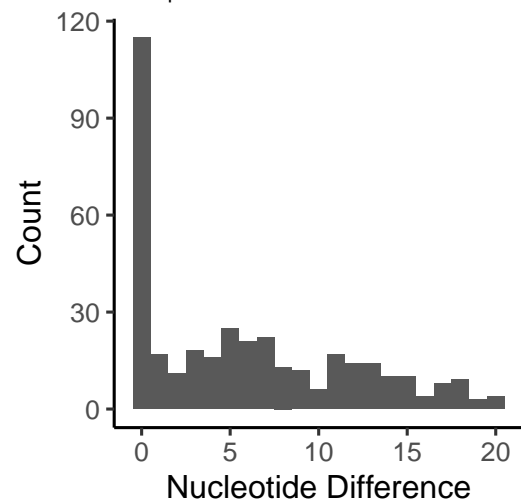
### IGHV2-26\*01

35 sequences assigned  
25 (71.4%) exact matches, in which:  
25 unique CDR3  
4 unique J



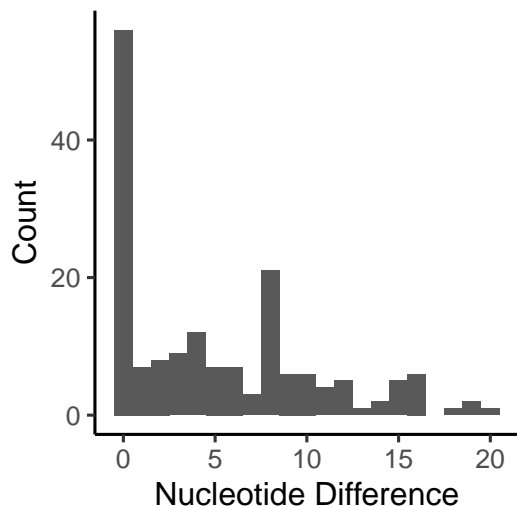
### IGHV3-7\*01

382 sequences assigned  
115 (30.1%) exact matches, in which:  
113 unique CDR3  
6 unique J



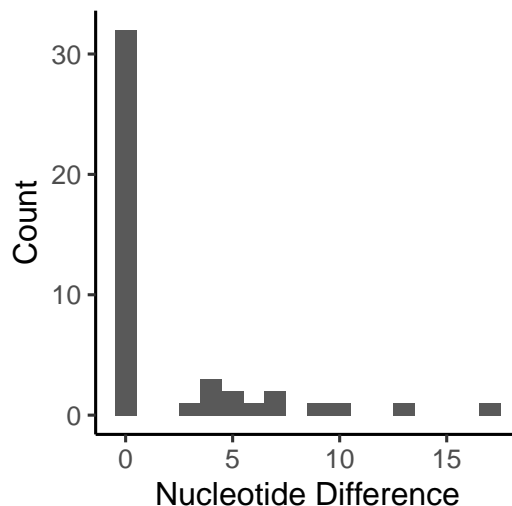
### IGHV3-7\*04

178 sequences assigned  
56 (31.5%) exact matches, in which:  
56 unique CDR3  
6 unique J



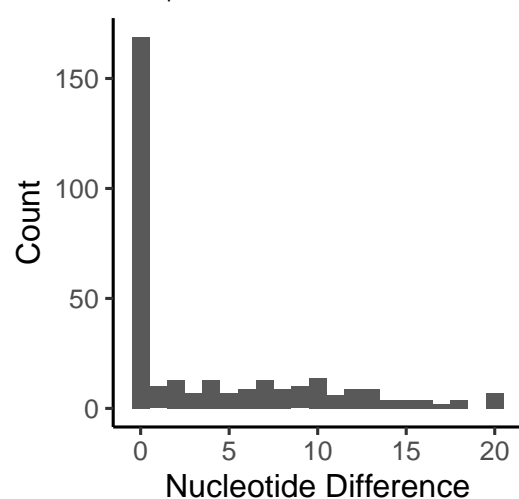
### IGHV3-11\*06

46 sequences assigned  
32 (69.6%) exact matches, in which:  
30 unique CDR3  
5 unique J



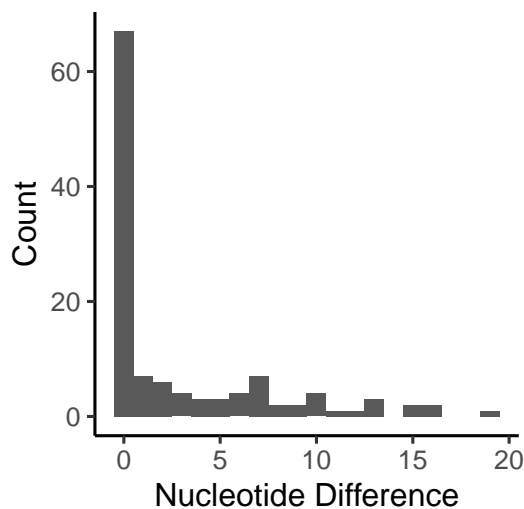
### IGHV3-15\*01\_02

349 sequences assigned  
169 (48.4%) exact matches, in which:  
166 unique CDR3  
6 unique J



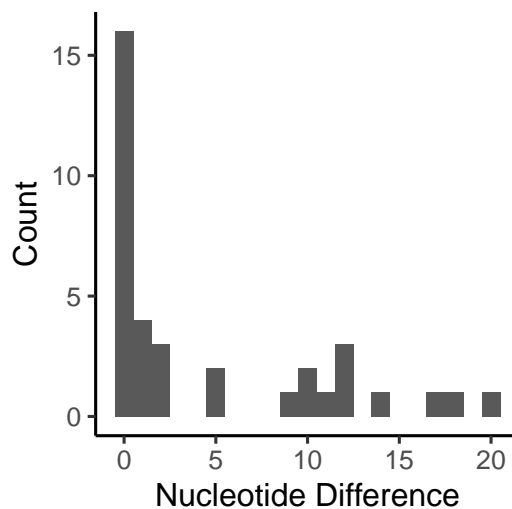
### IGHV3-9\*01

122 sequences assigned  
67 (54.9%) exact matches, in which:  
67 unique CDR3  
5 unique J



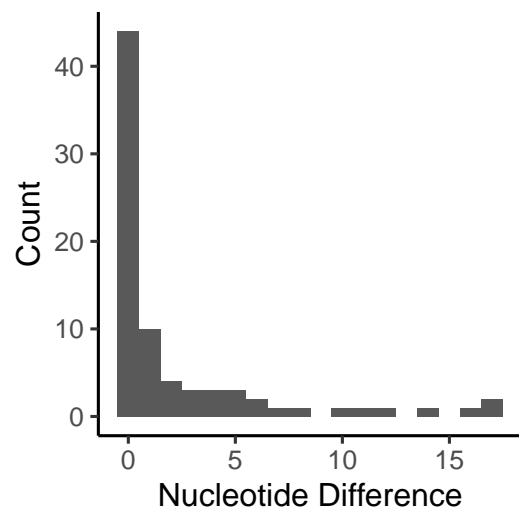
### IGHV3-13\*01

40 sequences assigned  
16 (40%) exact matches, in which:  
15 unique CDR3  
3 unique J



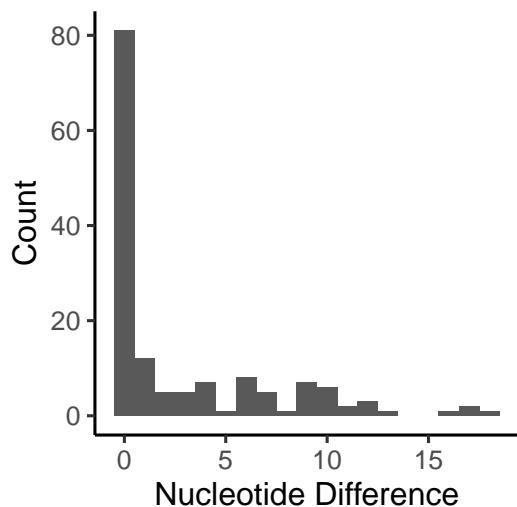
### IGHV3-20\*03\_04

82 sequences assigned  
44 (53.7%) exact matches, in which:  
44 unique CDR3  
5 unique J



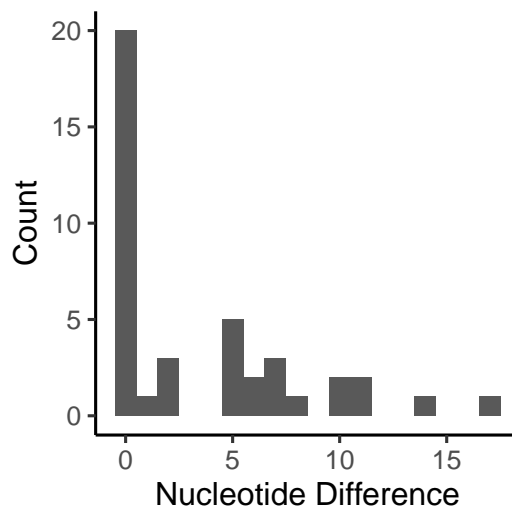
### IGHV3-11\*01

157 sequences assigned  
81 (51.6%) exact matches, in which:  
79 unique CDR3  
5 unique J



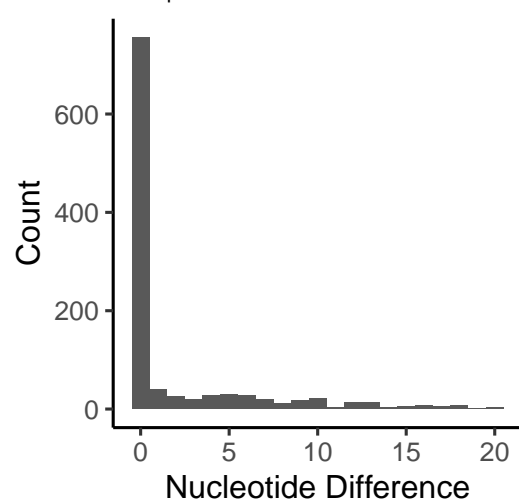
### IGHV3-13\*04

42 sequences assigned  
20 (47.6%) exact matches, in which:  
20 unique CDR3  
5 unique J



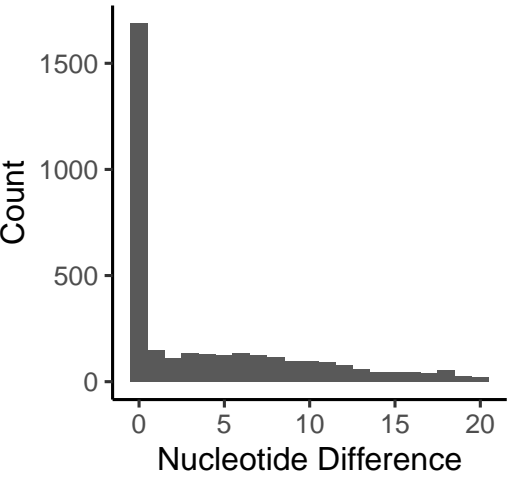
### IGHV3-21\*01\_02

1092 sequences assigned  
756 (69.2%) exact matches, in which:  
738 unique CDR3  
6 unique J



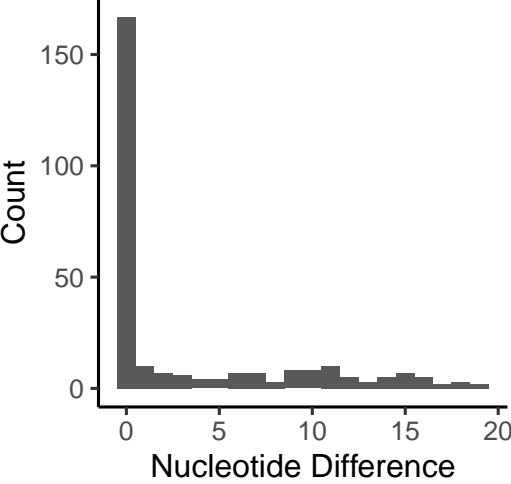
IGHV3-23\*01\_04

3494 sequences assigned  
1688 (48.3%) exact matches, in which:  
1622 unique CDR3  
6 unique J



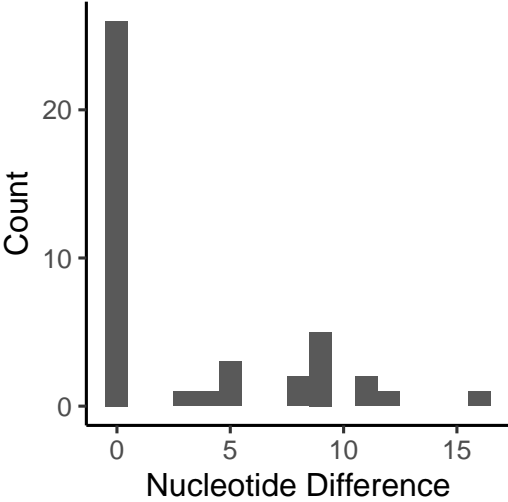
IGHV3-33\*01

281 sequences assigned  
167 (59.4%) exact matches, in which:  
165 unique CDR3  
6 unique J



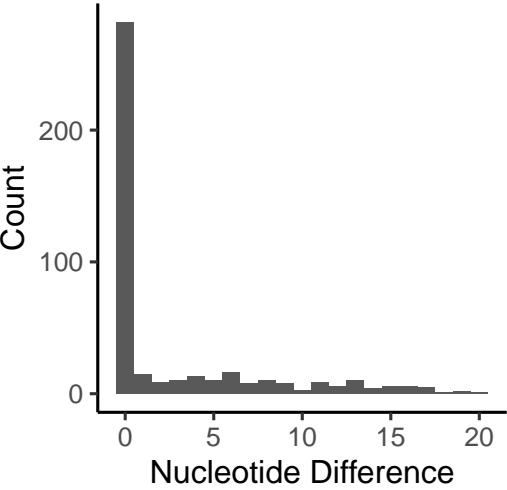
IGHV3-49\*03\_05

46 sequences assigned  
26 (56.5%) exact matches, in which:  
26 unique CDR3  
5 unique J



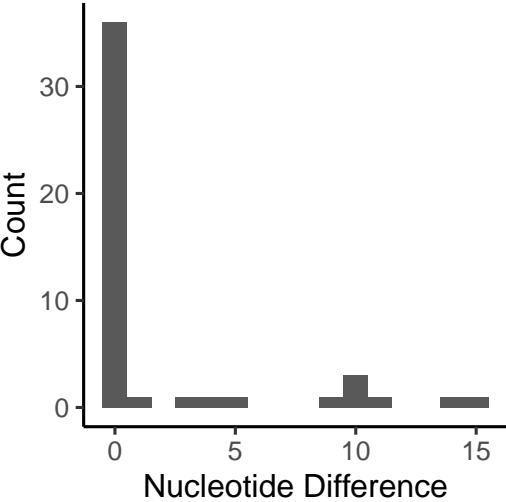
IGHV3-30-3\*01

463 sequences assigned  
282 (60.9%) exact matches, in which:  
277 unique CDR3  
6 unique J



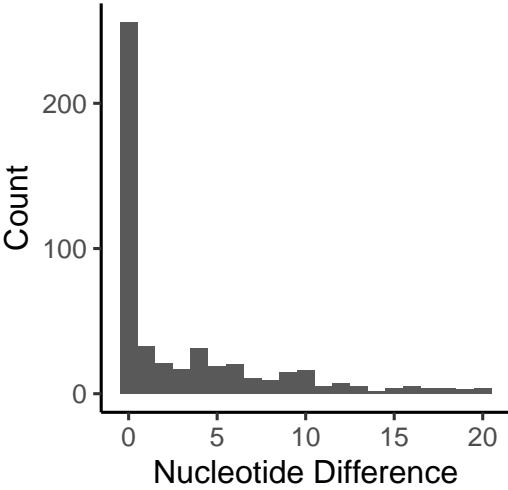
IGHV3-43\*01

48 sequences assigned  
36 (75%) exact matches, in which:  
35 unique CDR3  
4 unique J



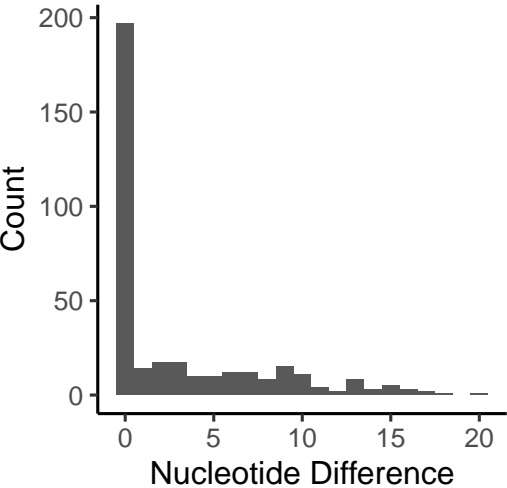
IGHV3-53\*01\_02

498 sequences assigned  
256 (51.4%) exact matches, in which:  
247 unique CDR3  
6 unique J



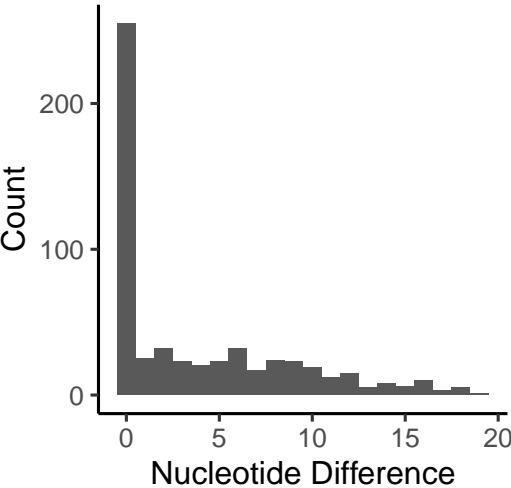
IGHV3-30\*18

369 sequences assigned  
197 (53.4%) exact matches, in which:  
191 unique CDR3  
4 unique J



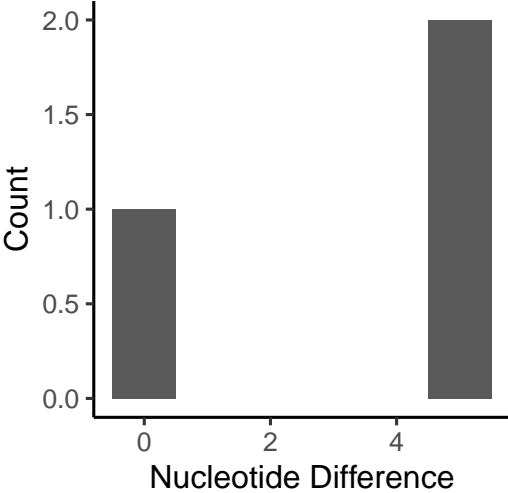
IGHV3-48\*02

574 sequences assigned  
255 (44.4%) exact matches, in which:  
250 unique CDR3  
6 unique J



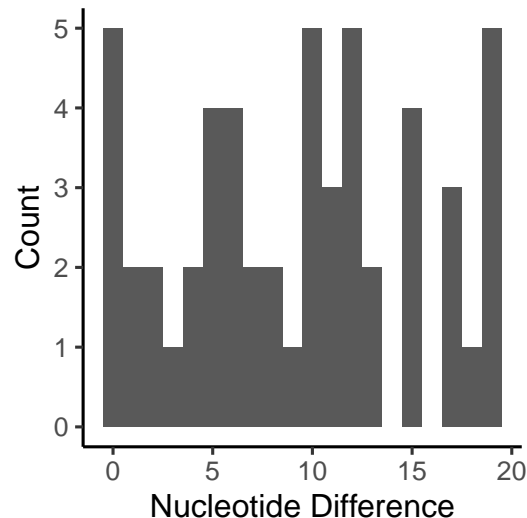
IGHV3-64\*02\_07

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



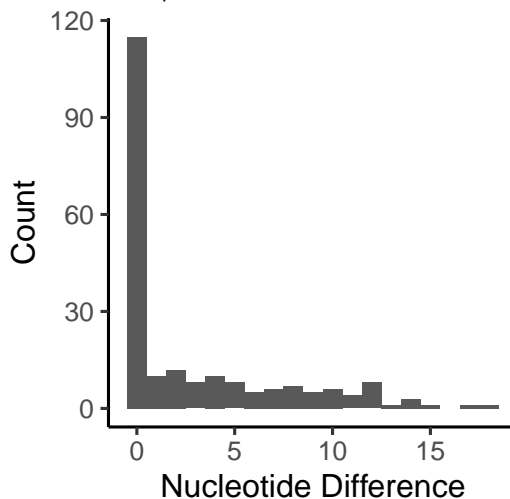
### IGHV3-72\*01

67 sequences assigned  
5 (7.5%) exact matches, in which:  
5 unique CDR3  
2 unique J



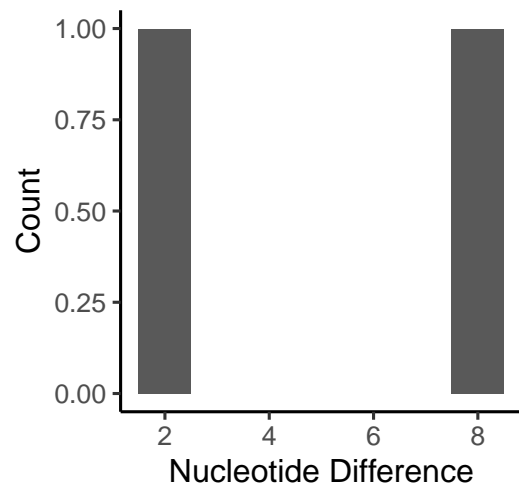
### IGHV3-74\*01\_02

216 sequences assigned  
115 (53.2%) exact matches, in which:  
110 unique CDR3  
6 unique J



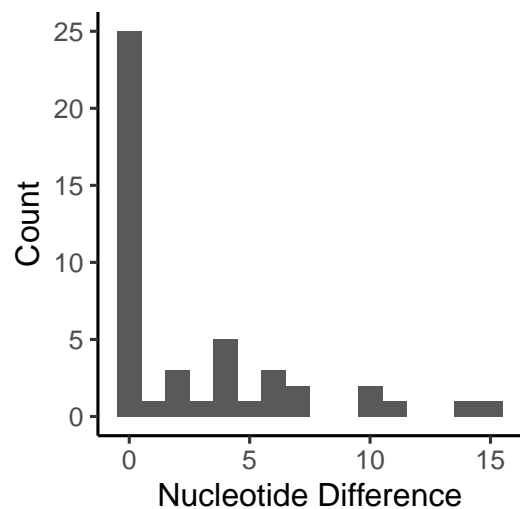
### IGHV4-28\*01\_07

2 sequences assigned  
No exact matches.



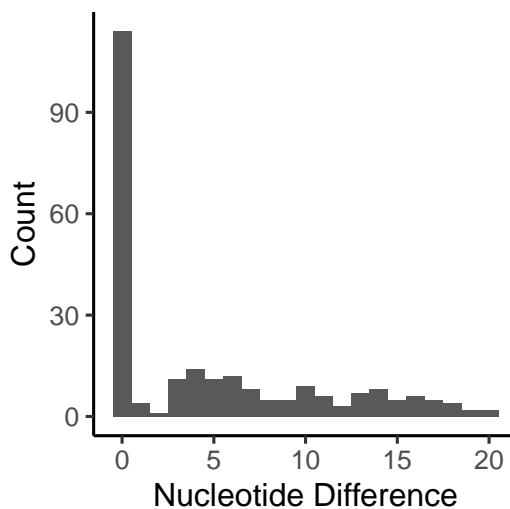
### IGHV3-73\*01\_02

46 sequences assigned  
25 (54.3%) exact matches, in which:  
25 unique CDR3  
4 unique J



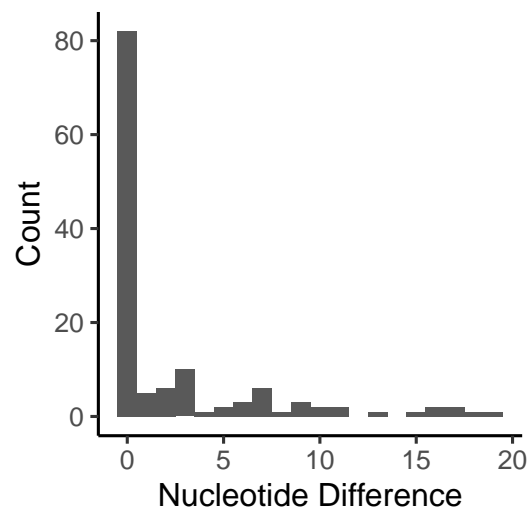
### IGHV3-64D\*06

253 sequences assigned  
114 (45.1%) exact matches, in which:  
113 unique CDR3  
6 unique J



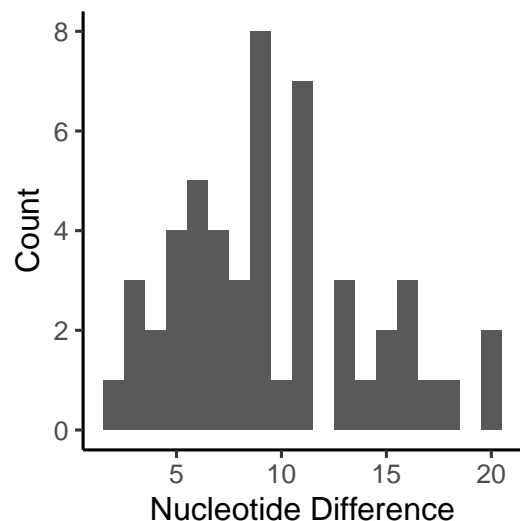
### IGHV4-30-4\*01

140 sequences assigned  
82 (58.6%) exact matches, in which:  
81 unique CDR3  
6 unique J



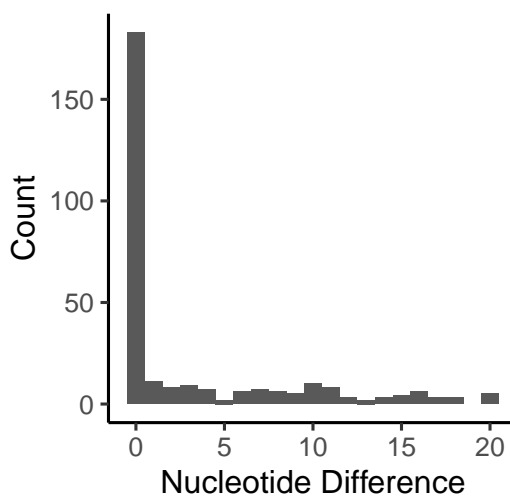
### IGHV3-74\*03

54 sequences assigned  
No exact matches.



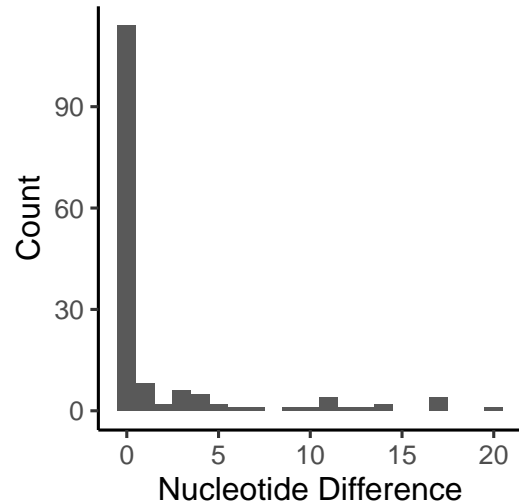
### IGHV4-4\*02\_03

307 sequences assigned  
183 (59.6%) exact matches, in which:  
181 unique CDR3  
6 unique J



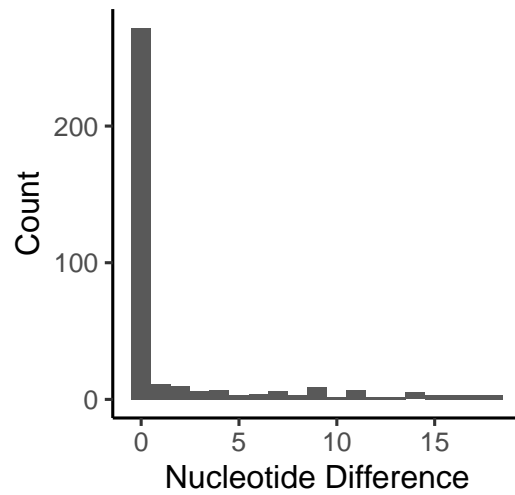
### IGHV4-30-2\*01

171 sequences assigned  
114 (66.7%) exact matches, in which:  
109 unique CDR3  
6 unique J



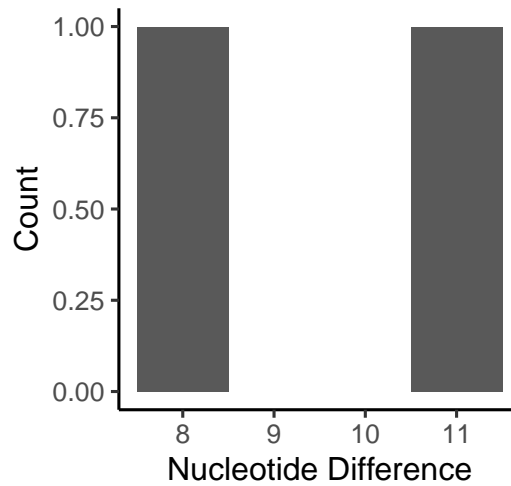
### IGHV4-31\*02

384 sequences assigned  
272 (70.8%) exact matches, in which:  
269 unique CDR3  
6 unique J



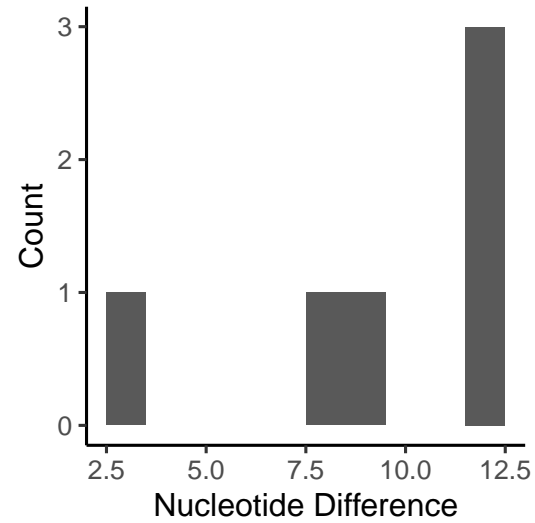
### IGHV4-59\*02

6 sequences assigned  
No exact matches.



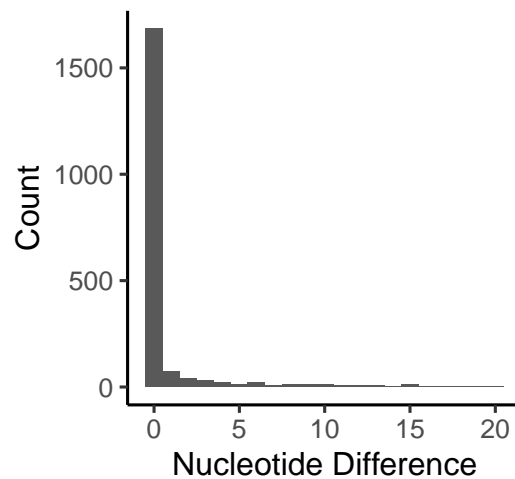
### IGHV4-59\*12

8 sequences assigned  
No exact matches.



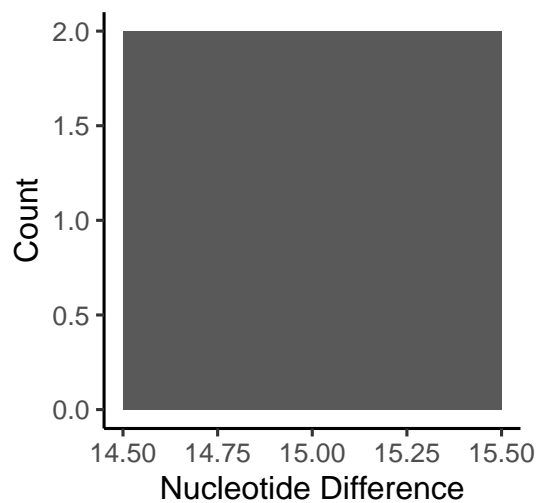
### IGHV4-34\*01\_02

1993 sequences assigned  
1684 (84.5%) exact matches, in which:  
1630 unique CDR3  
6 unique J



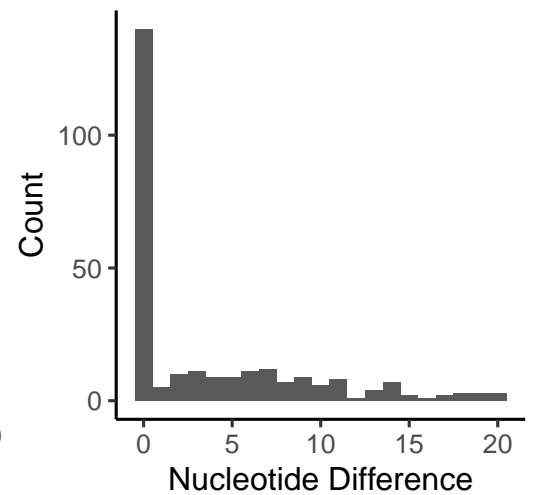
### IGHV4-59\*03

3 sequences assigned  
No exact matches.



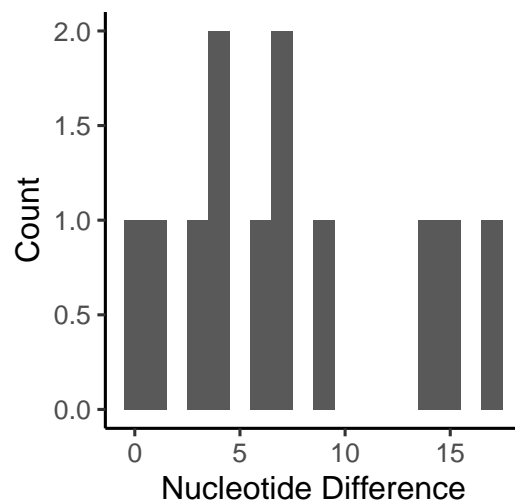
### IGHV4-61\*01

272 sequences assigned  
140 (51.5%) exact matches, in which:  
137 unique CDR3  
6 unique J



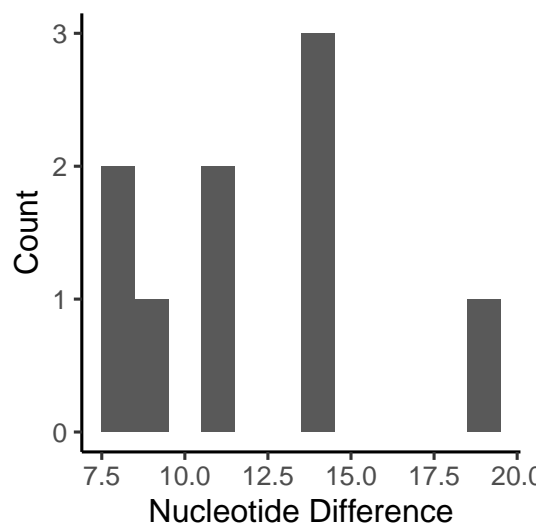
### IGHV4-39\*02

14 sequences assigned  
1 (7.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



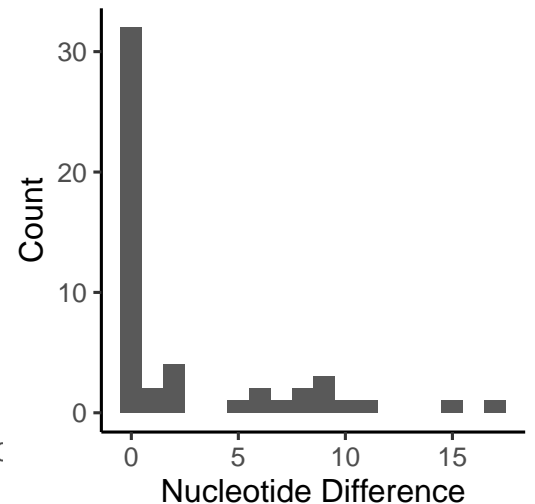
### IGHV4-59\*11

17 sequences assigned  
No exact matches.



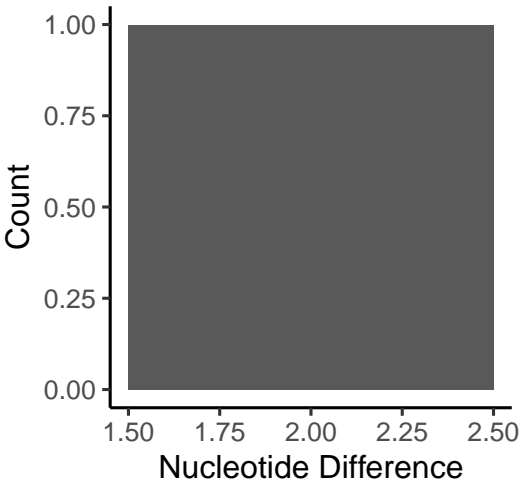
### IGHV5-10-1\*01\_03

53 sequences assigned  
32 (60.4%) exact matches, in which:  
32 unique CDR3  
5 unique J



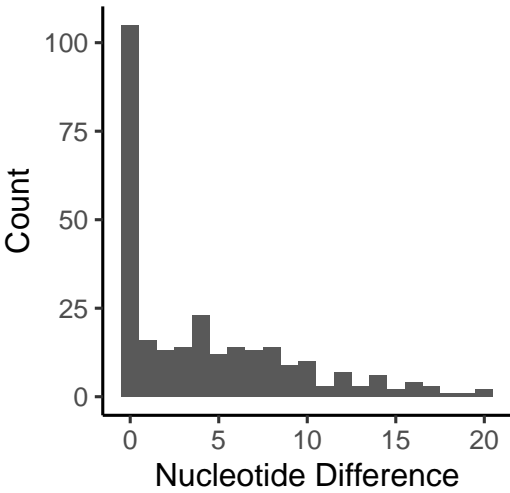
### IGHV5-51\*04

1 sequences assigned  
No exact matches.



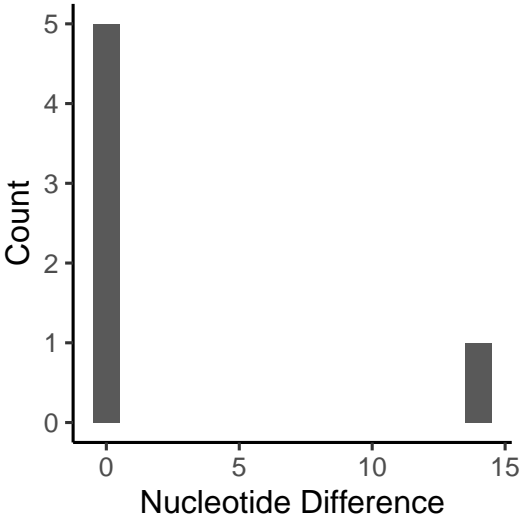
### IGHV6-1\*01\_02

283 sequences assigned  
105 (37.1%) exact matches, in which:  
104 unique CDR3  
5 unique J



### IGHV7-4-1\*01

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







Warning – no inferred sequences found.