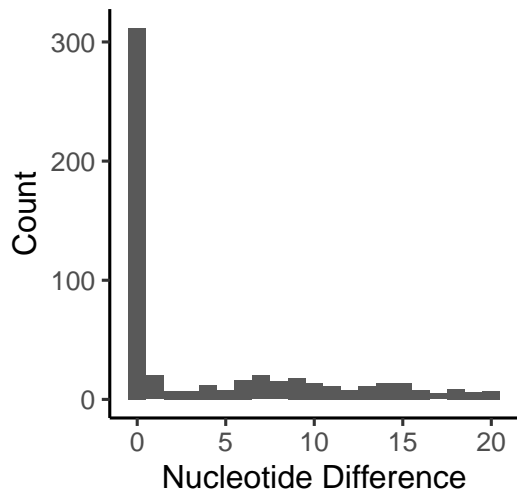


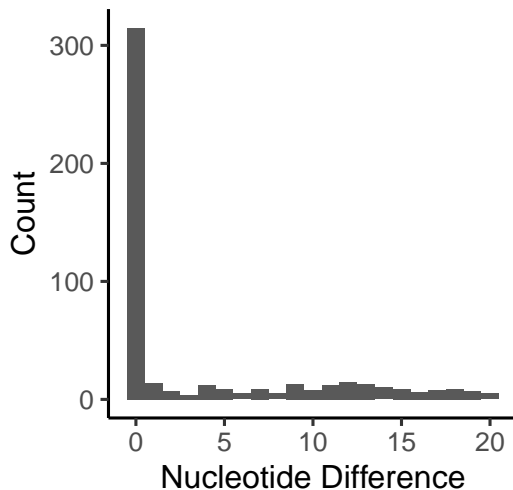
### IGHV1–2\*02

574 sequences assigned  
312 (54.4%) exact matches, in which:  
310 unique CDR3  
6 unique J



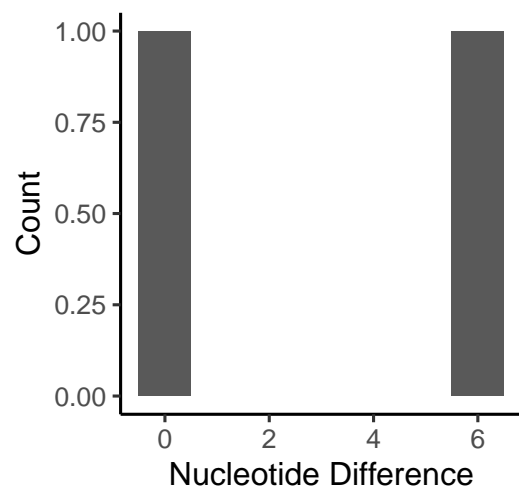
### IGHV1–18\*01

542 sequences assigned  
315 (58.1%) exact matches, in which:  
315 unique CDR3  
6 unique J



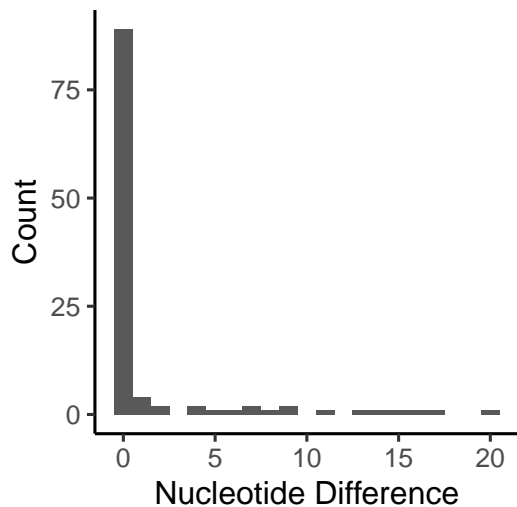
### IGHV1–45\*02

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



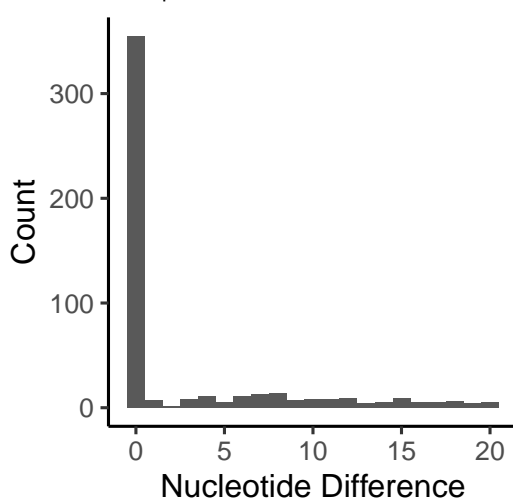
### IGHV1–2\*04

115 sequences assigned  
89 (77.4%) exact matches, in which:  
89 unique CDR3  
5 unique J



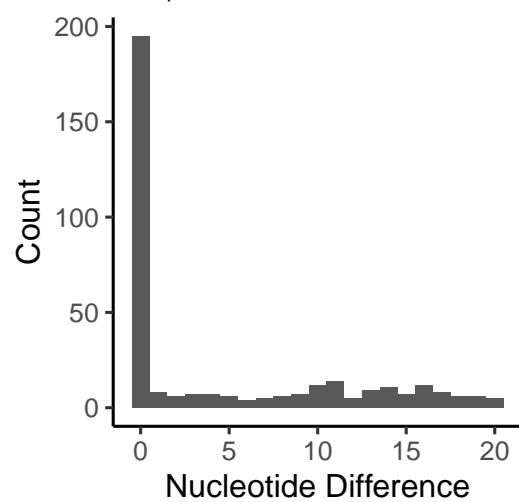
### IGHV1–18\*04

515 sequences assigned  
355 (68.9%) exact matches, in which:  
355 unique CDR3  
6 unique J



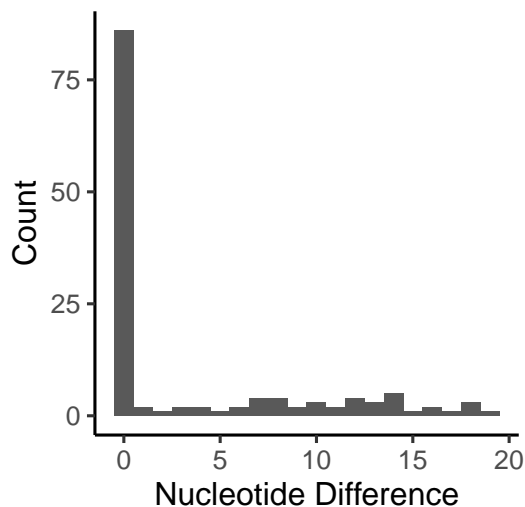
### IGHV1–46\*01

385 sequences assigned  
195 (50.6%) exact matches, in which:  
195 unique CDR3  
6 unique J



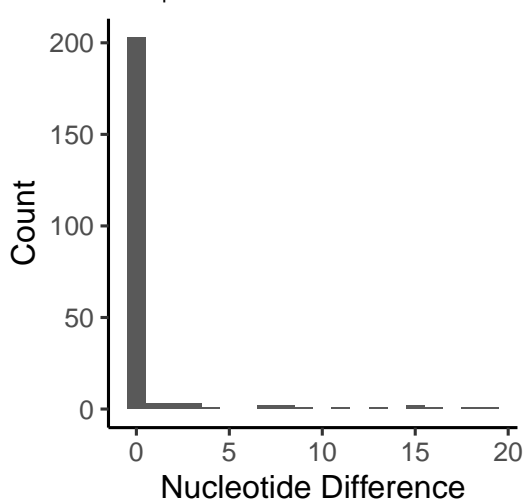
### IGHV1–3\*01\_05

139 sequences assigned  
86 (61.9%) exact matches, in which:  
86 unique CDR3  
6 unique J



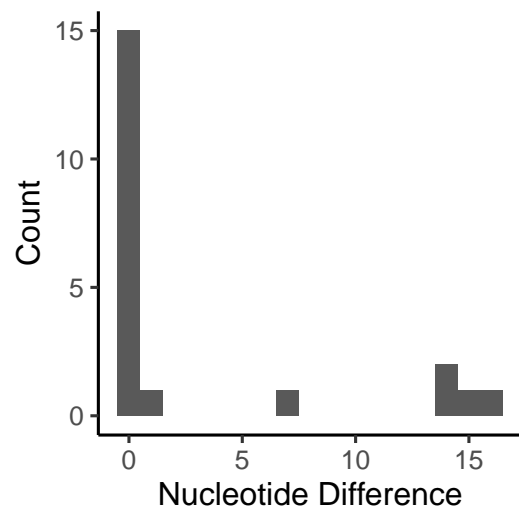
### IGHV1–24\*01

227 sequences assigned  
203 (89.4%) exact matches, in which:  
203 unique CDR3  
6 unique J



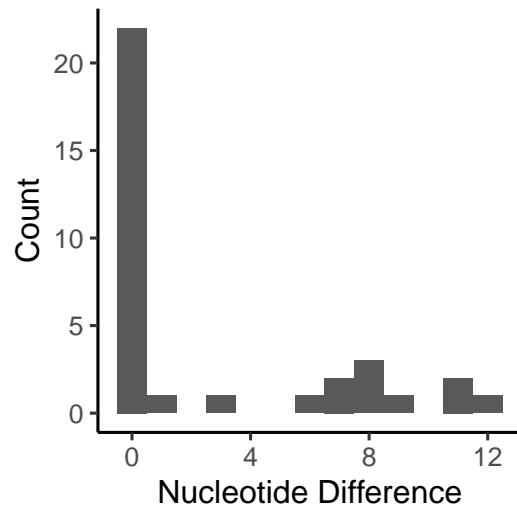
### IGHV1–58\*02

21 sequences assigned  
15 (71.4%) exact matches, in which:  
15 unique CDR3  
5 unique J



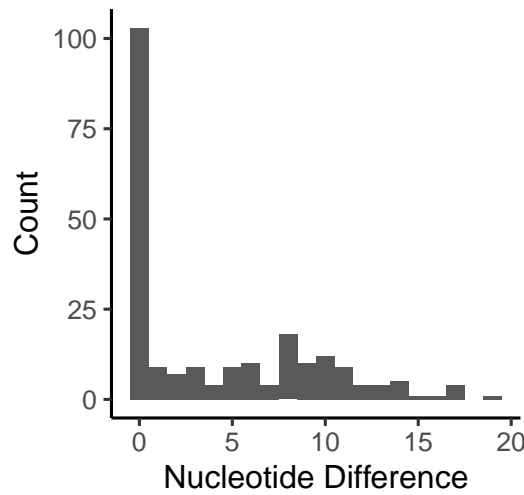
### IGHV1-58\*01\_03

35 sequences assigned  
22 (62.9%) exact matches, in which:  
22 unique CDR3  
5 unique J



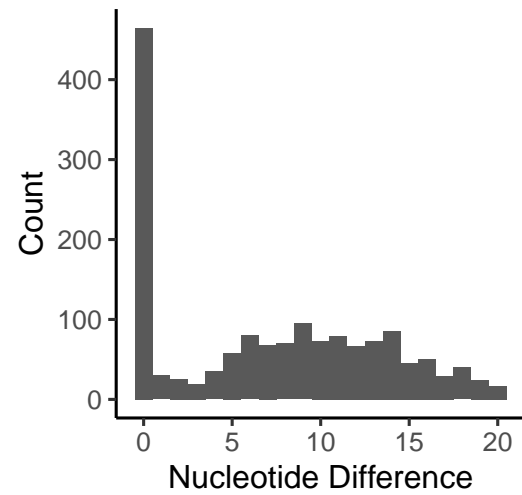
### IGHV2-5\*02

231 sequences assigned  
103 (44.6%) exact matches, in which:  
102 unique CDR3  
6 unique J



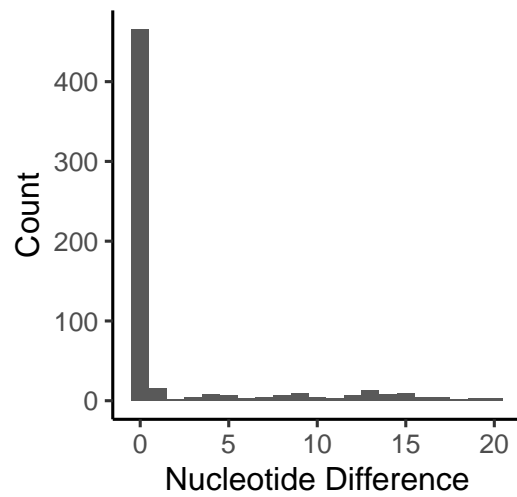
### IGHV3-7\*03

1612 sequences assigned  
465 (28.8%) exact matches, in which:  
450 unique CDR3  
6 unique J



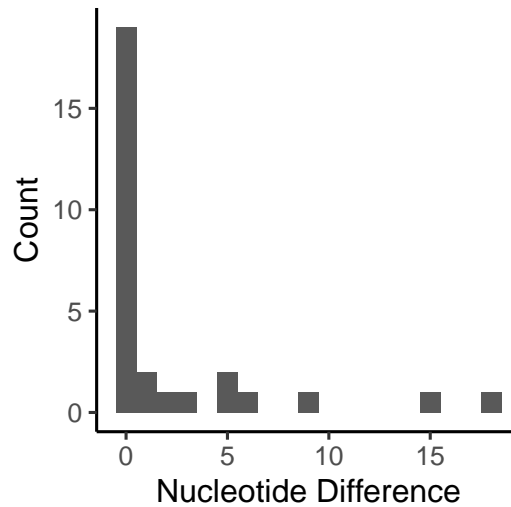
### IGHV1-69\*01\_12\_13

616 sequences assigned  
466 (75.6%) exact matches, in which:  
466 unique CDR3  
6 unique J



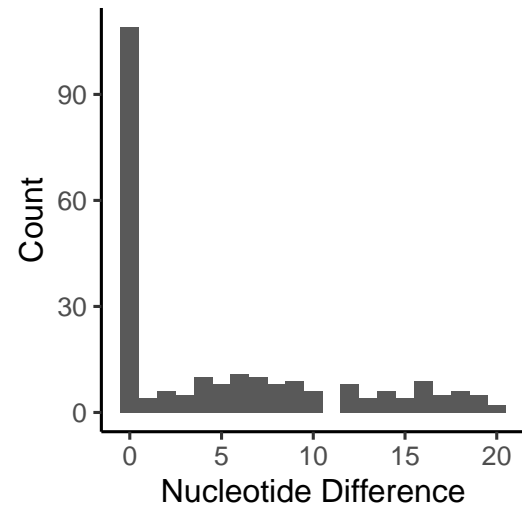
### IGHV2-26\*01

30 sequences assigned  
19 (63.3%) exact matches, in which:  
19 unique CDR3  
5 unique J



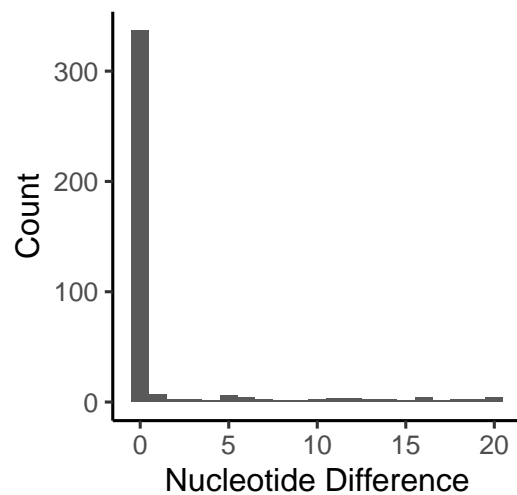
### IGHV3-11\*06

250 sequences assigned  
109 (43.6%) exact matches, in which:  
103 unique CDR3  
5 unique J



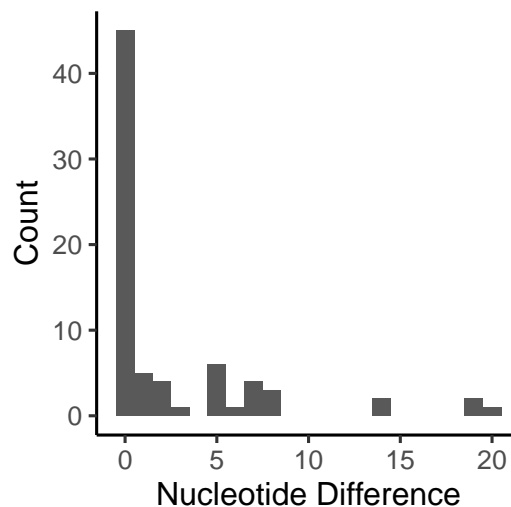
### IGHV1-69\*06\_14

407 sequences assigned  
337 (82.8%) exact matches, in which:  
337 unique CDR3  
6 unique J



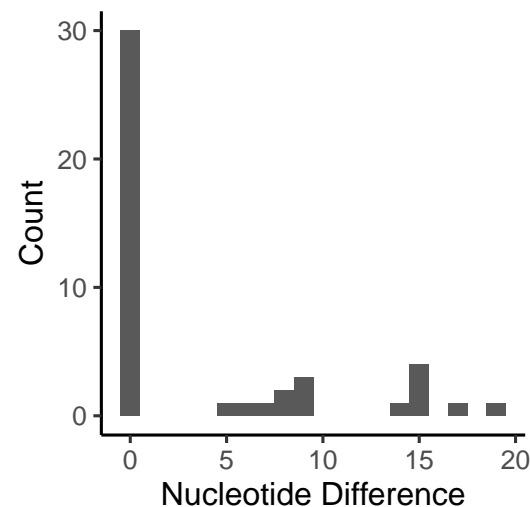
### IGHV2-70\*01

75 sequences assigned  
45 (60%) exact matches, in which:  
44 unique CDR3  
4 unique J



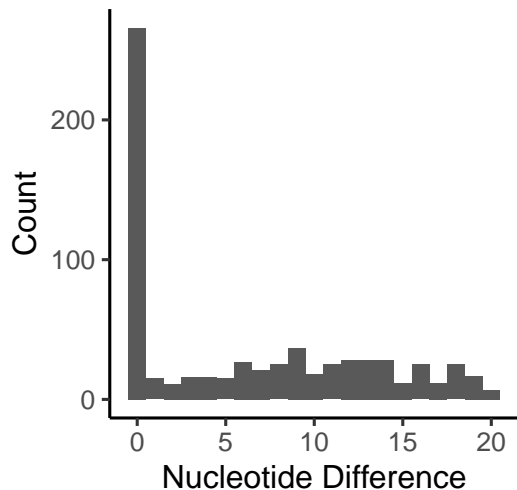
### IGHV3-13\*05

59 sequences assigned  
30 (50.8%) exact matches, in which:  
28 unique CDR3  
5 unique J



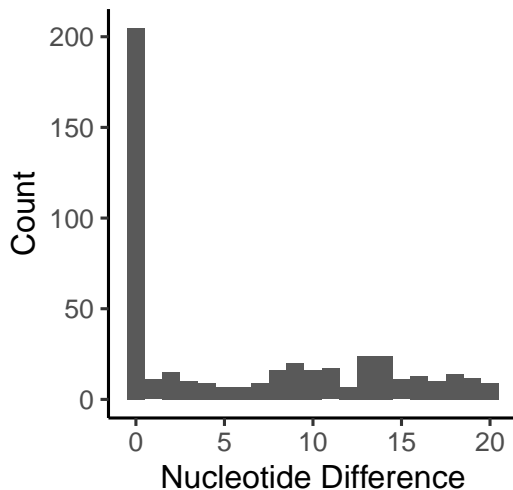
### IGHV3-15\*01\_02

715 sequences assigned  
266 (37.2%) exact matches, in which:  
257 unique CDR3  
6 unique J



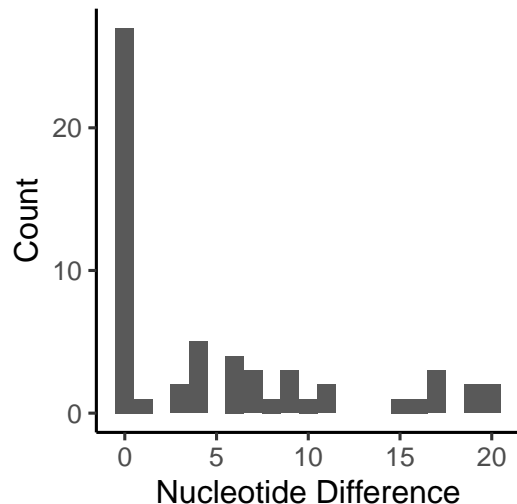
### IGHV3-30\*01

486 sequences assigned  
205 (42.2%) exact matches, in which:  
200 unique CDR3  
6 unique J



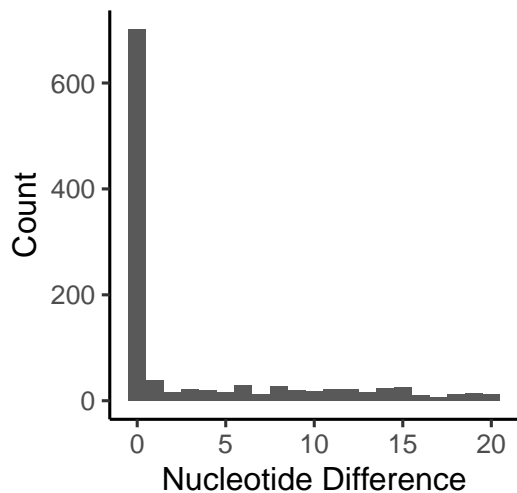
### IGHV3-43\*01

61 sequences assigned  
27 (44.3%) exact matches, in which:  
26 unique CDR3  
4 unique J



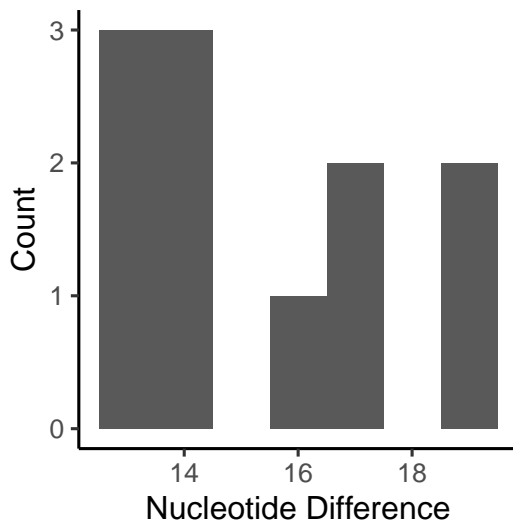
### IGHV3-21\*01\_02

1150 sequences assigned  
702 (61%) exact matches, in which:  
685 unique CDR3  
6 unique J



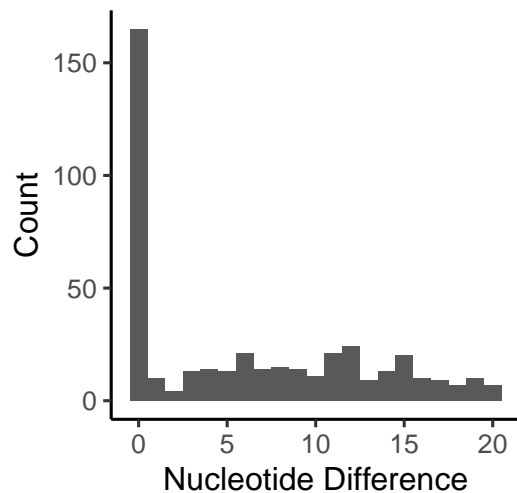
### IGHV3-30-3\*03

11 sequences assigned  
No exact matches.



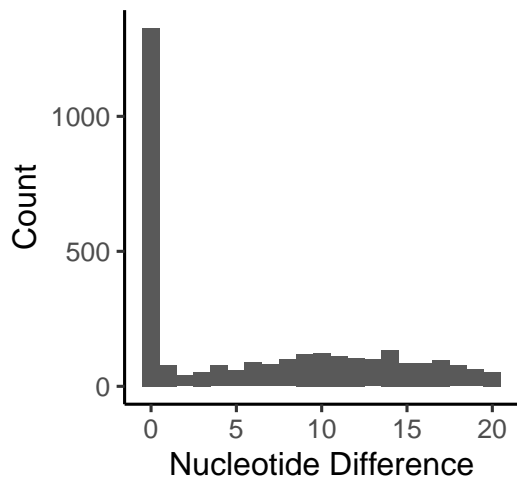
### IGHV3-48\*01

453 sequences assigned  
165 (36.4%) exact matches, in which:  
162 unique CDR3  
6 unique J



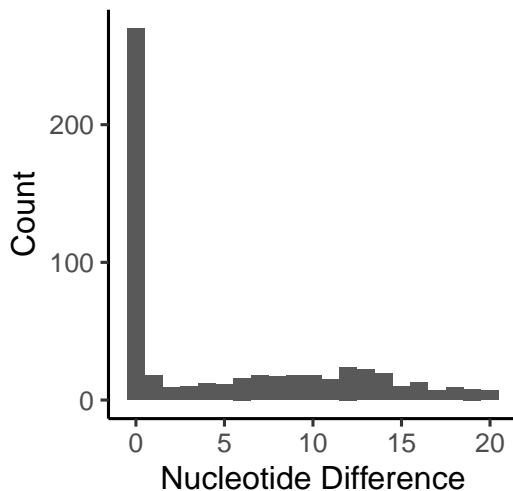
### IGHV3-23\*01\_04

3354 sequences assigned  
1327 (39.6%) exact matches, in which:  
1308 unique CDR3  
6 unique J



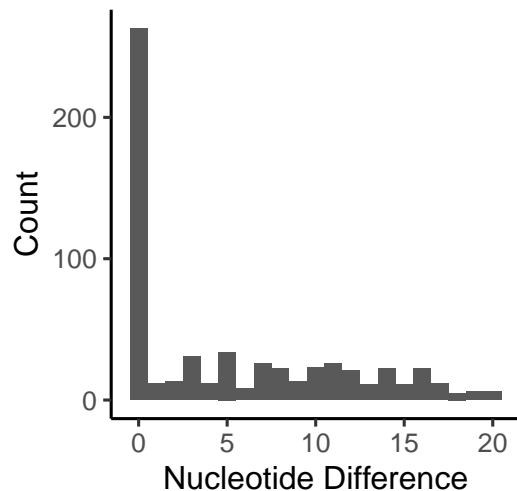
### IGHV3-33\*01

582 sequences assigned  
270 (46.4%) exact matches, in which:  
268 unique CDR3  
6 unique J



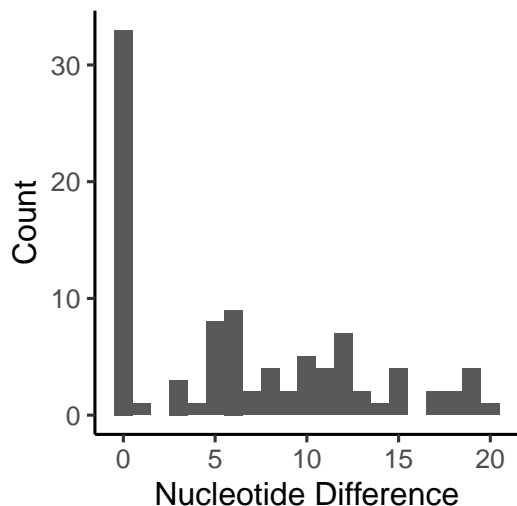
### IGHV3-48\*03

639 sequences assigned  
263 (41.2%) exact matches, in which:  
259 unique CDR3  
6 unique J



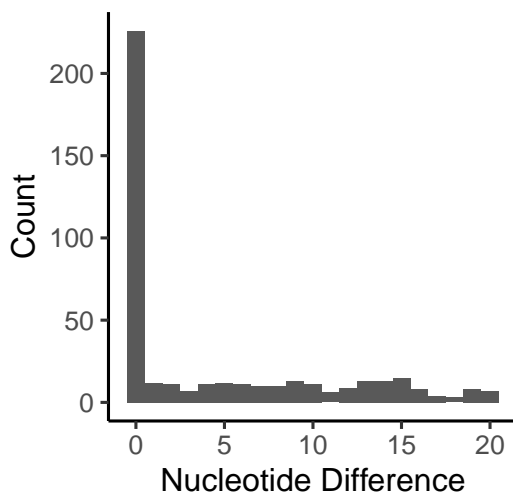
### IGHV3-49\*04

101 sequences assigned  
33 (32.7%) exact matches, in which:  
33 unique CDR3  
6 unique J



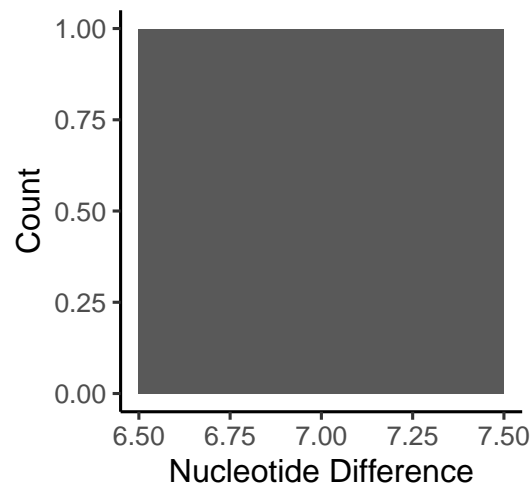
### IGHV3-53\*01\_02

469 sequences assigned  
226 (48.2%) exact matches, in which:  
218 unique CDR3  
6 unique J



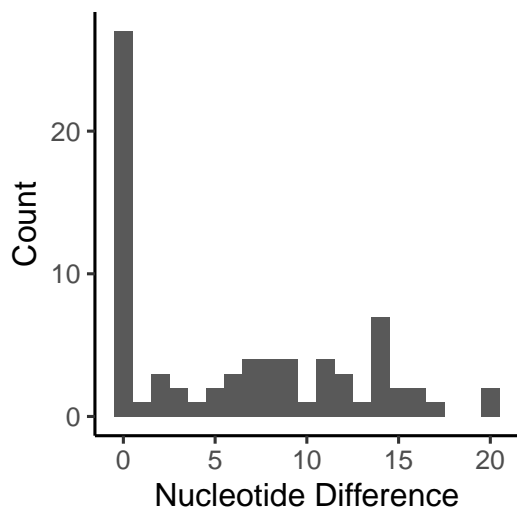
### IGHV3-69-1\*02

1 sequences assigned  
No exact matches.



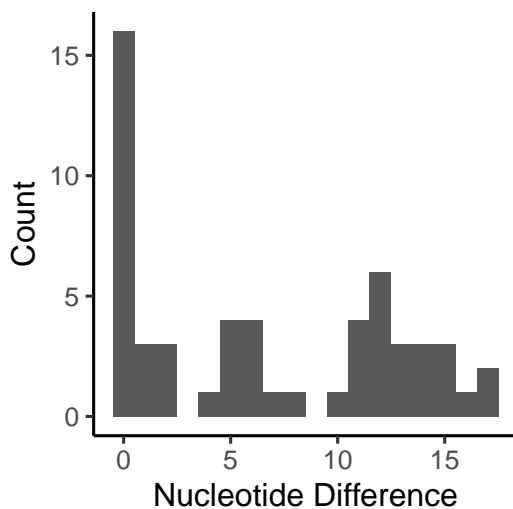
### IGHV3-49\*03\_05

76 sequences assigned  
27 (35.5%) exact matches, in which:  
27 unique CDR3  
4 unique J



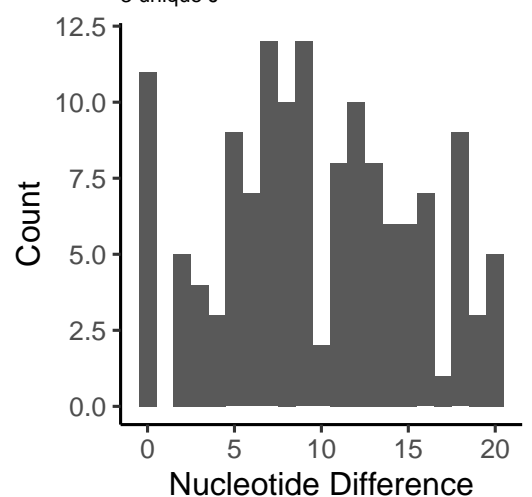
### IGHV3-64\*01

56 sequences assigned  
16 (28.6%) exact matches, in which:  
15 unique CDR3  
3 unique J



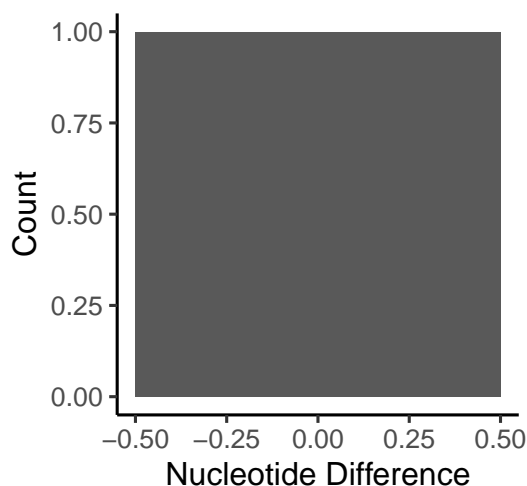
### IGHV3-72\*01

154 sequences assigned  
11 (7.1%) exact matches, in which:  
11 unique CDR3  
3 unique J



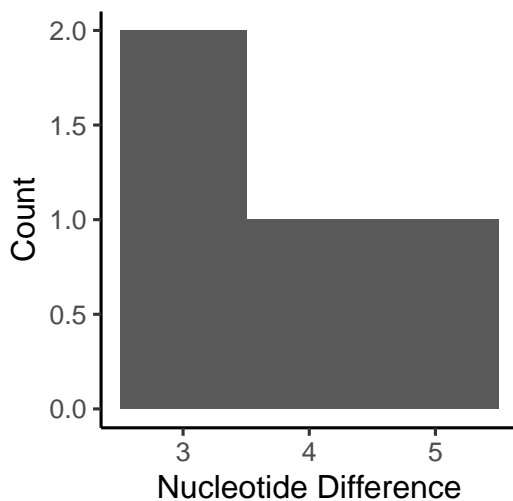
### IGHV3-52\*01\_03

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



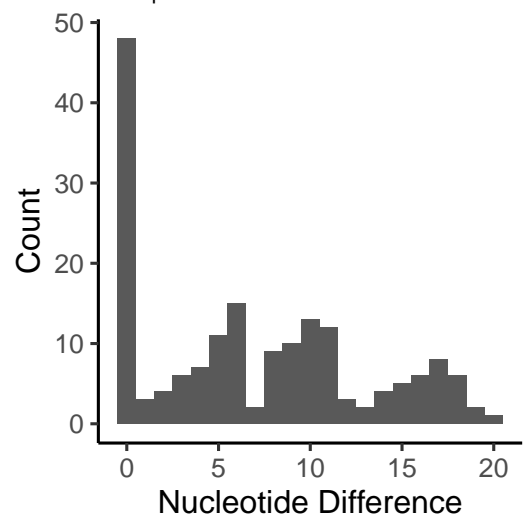
### IGHV3-69-1\*01

4 sequences assigned  
No exact matches.



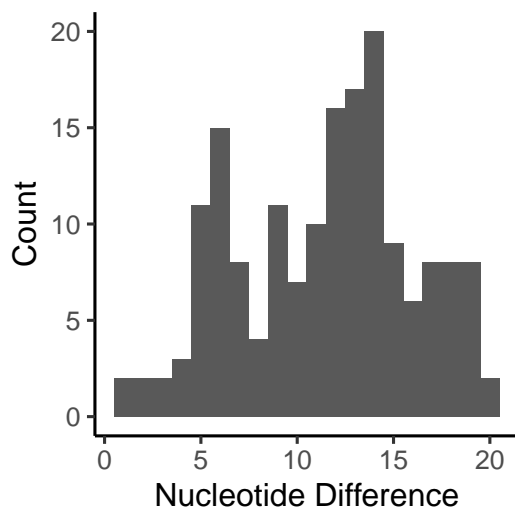
### IGHV3-73\*01\_02

186 sequences assigned  
48 (25.8%) exact matches, in which:  
45 unique CDR3  
4 unique J



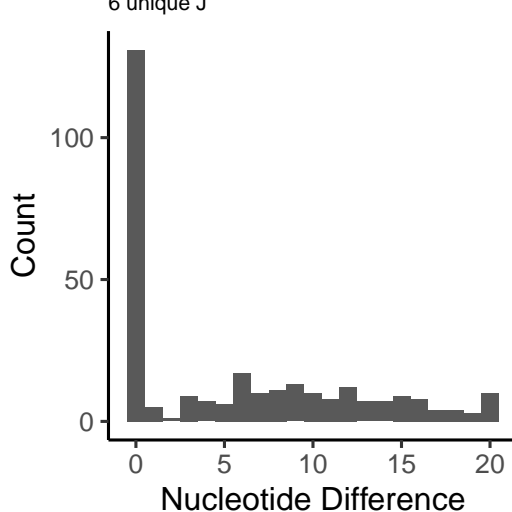
### IGHV3-74\*03

194 sequences assigned  
No exact matches.



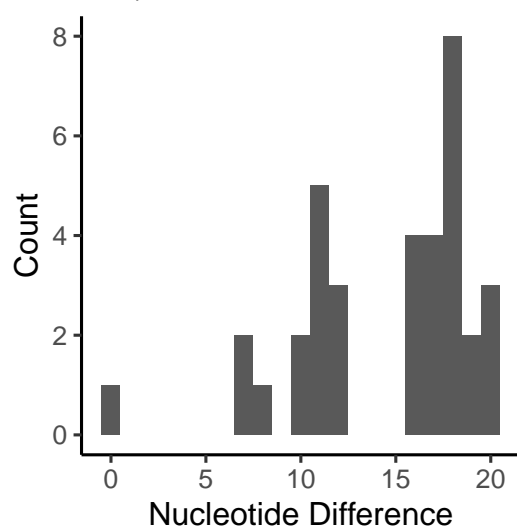
### IGHV3-64D\*06

322 sequences assigned  
131 (40.7%) exact matches, in which:  
130 unique CDR3  
6 unique J



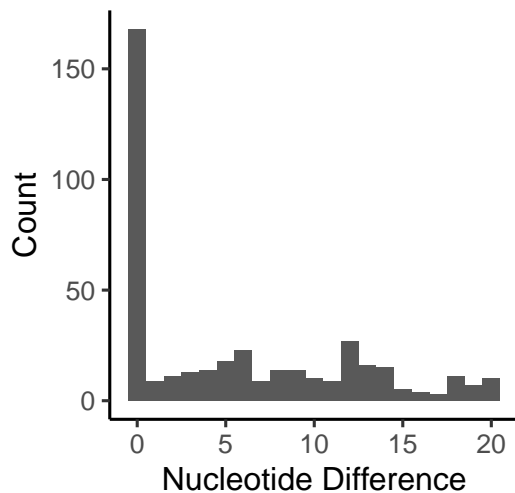
### IGHV4-28\*01\_07

35 sequences assigned  
1 (2.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



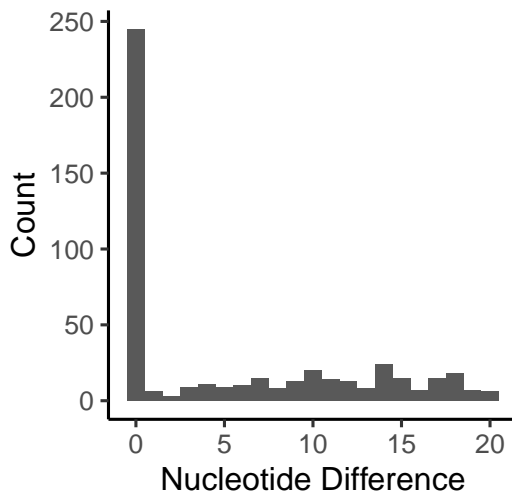
### IGHV3-74\*01\_02

423 sequences assigned  
168 (39.7%) exact matches, in which:  
157 unique CDR3  
6 unique J



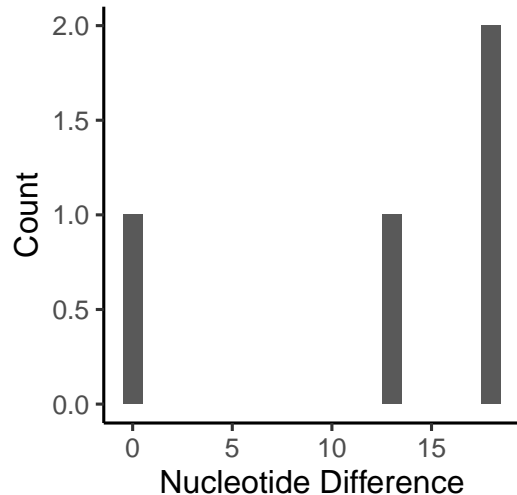
### IGHV4-4\*07

520 sequences assigned  
245 (47.1%) exact matches, in which:  
241 unique CDR3  
6 unique J



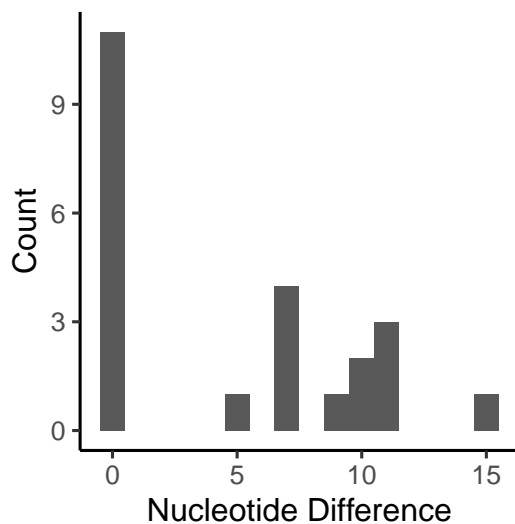
### IGHV4-28\*02\_05

4 sequences assigned  
1 (25%) exact matches, in which:  
1 unique CDR3  
1 unique J



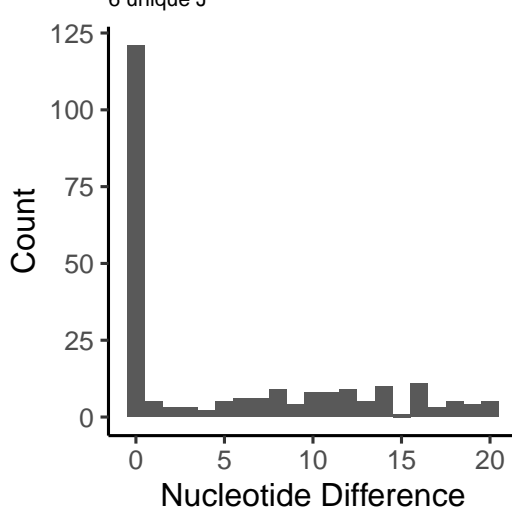
### IGHV3-43D\*04

25 sequences assigned  
11 (44%) exact matches, in which:  
11 unique CDR3  
3 unique J



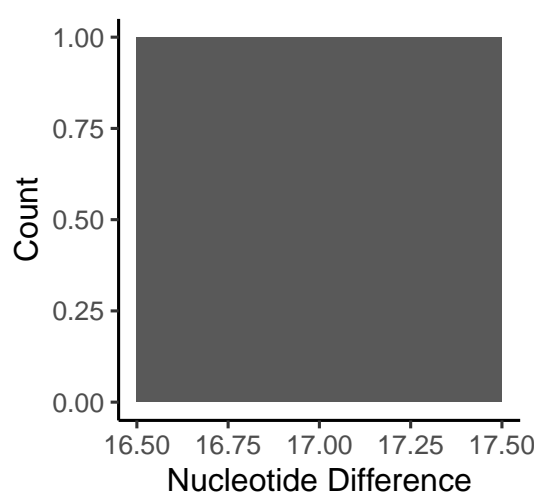
### IGHV4-4\*02\_03

306 sequences assigned  
121 (39.5%) exact matches, in which:  
119 unique CDR3  
6 unique J



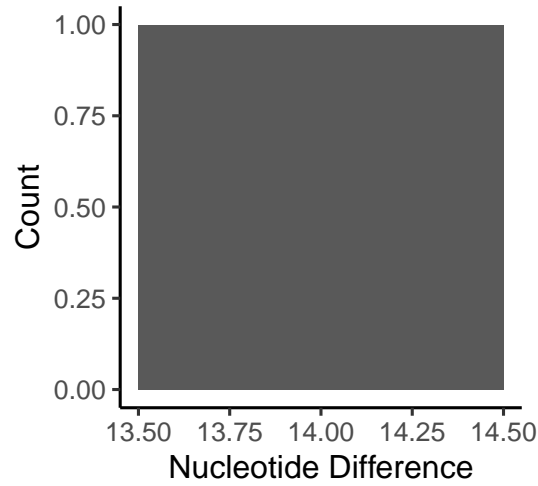
### IGHV4-30-2\*01

1 sequences assigned  
No exact matches.



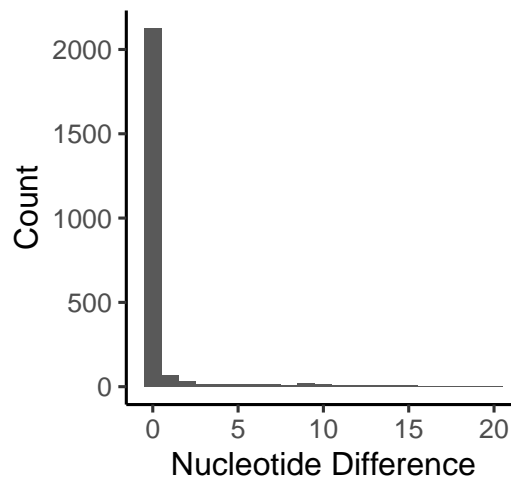
### IGHV4-30-4\*08

1 sequences assigned  
No exact matches.



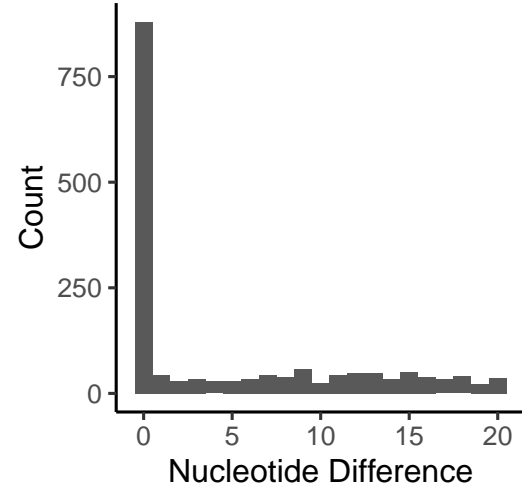
### IGHV4-34\*01\_02

2445 sequences assigned  
2125 (86.9%) exact matches, in which:  
2106 unique CDR3  
6 unique J



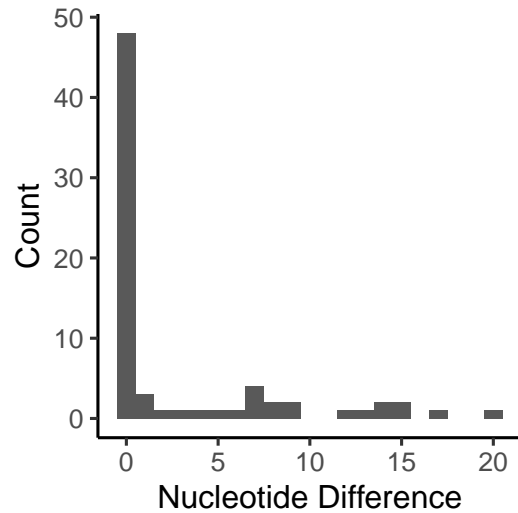
### IGHV4-59\*02\_G88A

1762 sequences assigned  
880 (49.9%) exact matches, in which:  
859 unique CDR3  
6 unique J



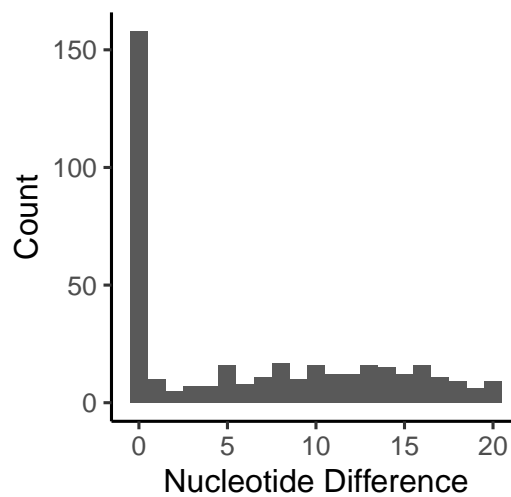
### IGHV4-31\*01

74 sequences assigned  
48 (64.9%) exact matches, in which:  
47 unique CDR3  
5 unique J



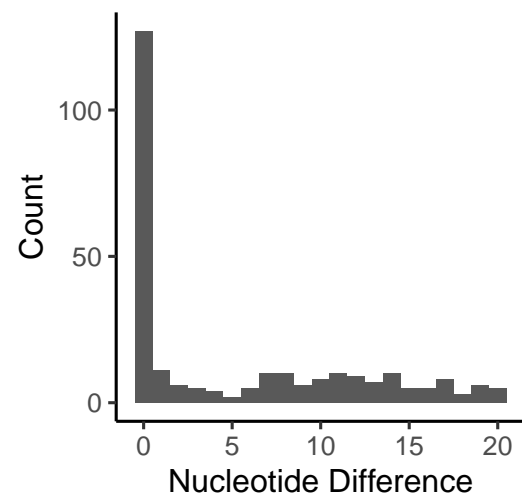
### IGHV4-38-2\*02\_A70G

402 sequences assigned  
158 (39.3%) exact matches, in which:  
155 unique CDR3  
6 unique J



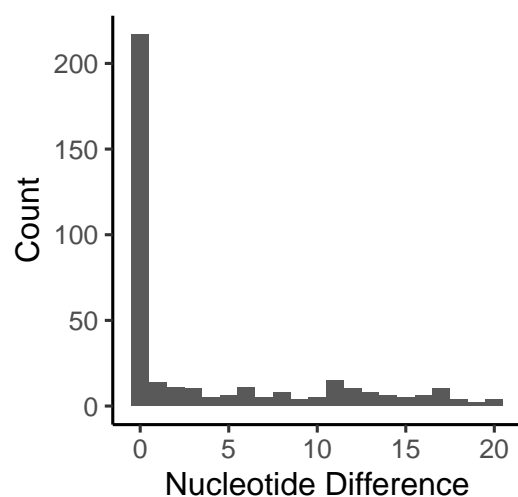
### IGHV4-61\*01

295 sequences assigned  
127 (43.1%) exact matches, in which:  
124 unique CDR3  
5 unique J



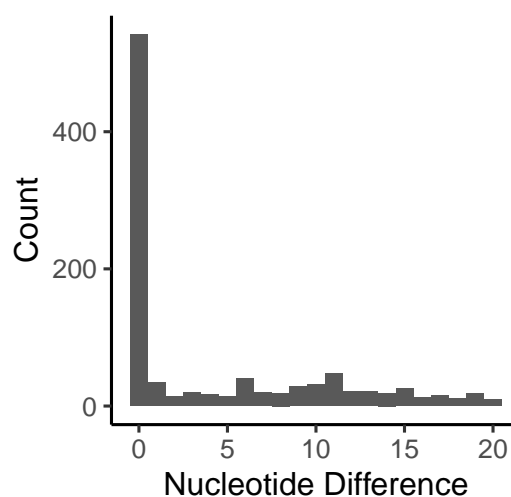
### IGHV4-31\*02

420 sequences assigned  
217 (51.7%) exact matches, in which:  
216 unique CDR3  
6 unique J



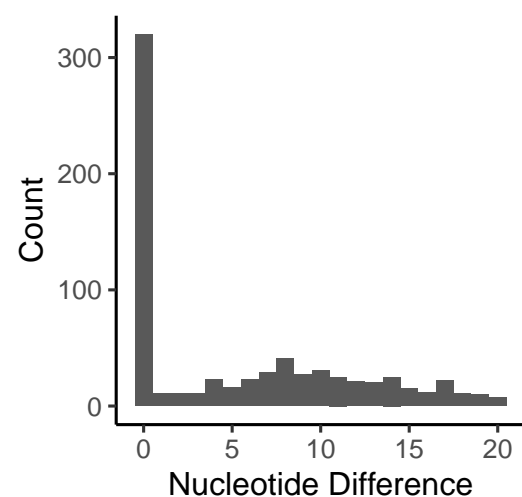
### IGHV4-39\*02\_C258G

1037 sequences assigned  
542 (52.3%) exact matches, in which:  
530 unique CDR3  
6 unique J



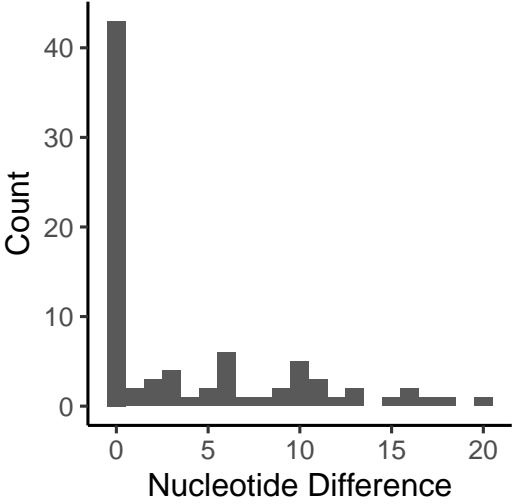
### IGHV4-61\*02

773 sequences assigned  
320 (41.4%) exact matches, in which:  
314 unique CDR3  
6 unique J



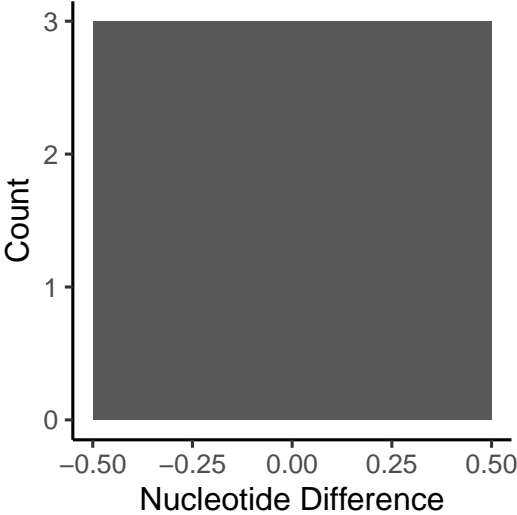
IGHV5-10-1\*01\_03

85 sequences assigned  
43 (50.6%) exact matches, in which:  
43 unique CDR3  
5 unique J



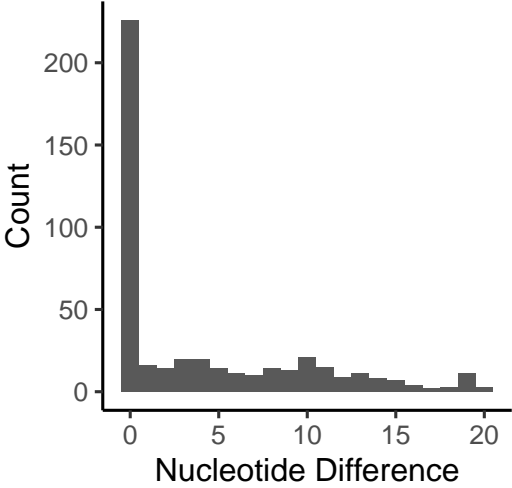
IGHV7-4-1\*01

3 sequences assigned  
3 (100%) exact matches, in which:  
3 unique CDR3  
3 unique J



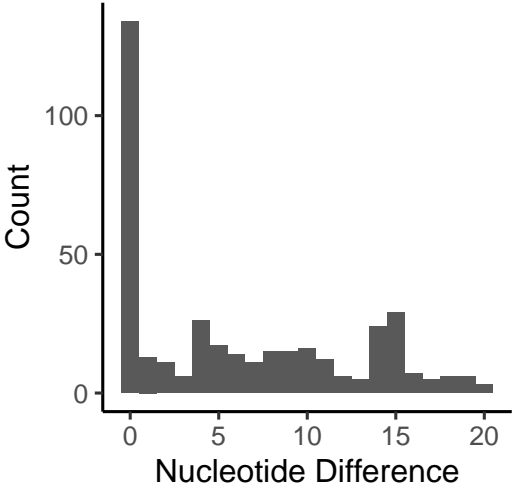
IGHV5-51\*07\_A128G

468 sequences assigned  
226 (48.3%) exact matches, in which:  
226 unique CDR3  
6 unique J



IGHV6-1\*01\_02

388 sequences assigned  
134 (34.5%) exact matches, in which:  
134 unique CDR3  
6 unique J







Warning – no inferred sequences found.