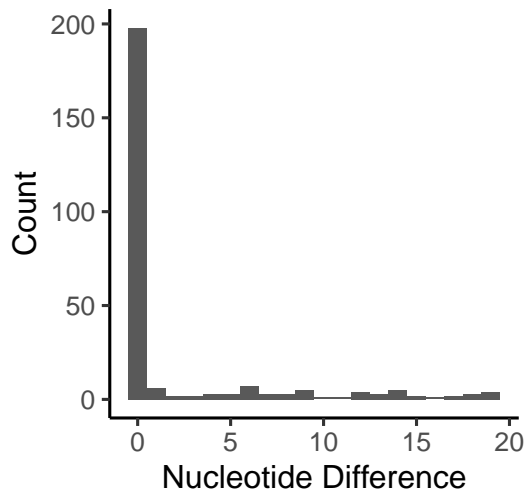


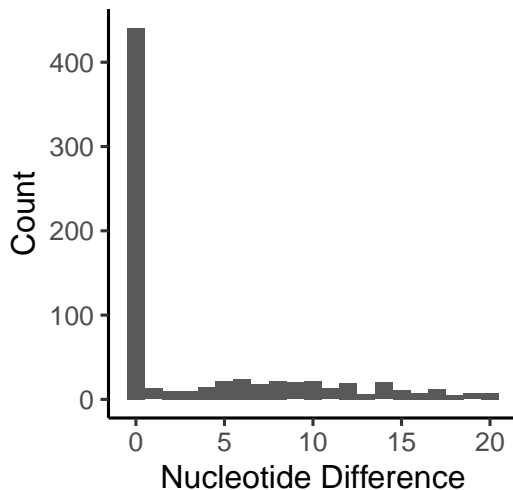
### IGHV1–2\*04

268 sequences assigned  
198 (73.9%) exact matches, in which:  
198 unique CDR3  
7 unique J



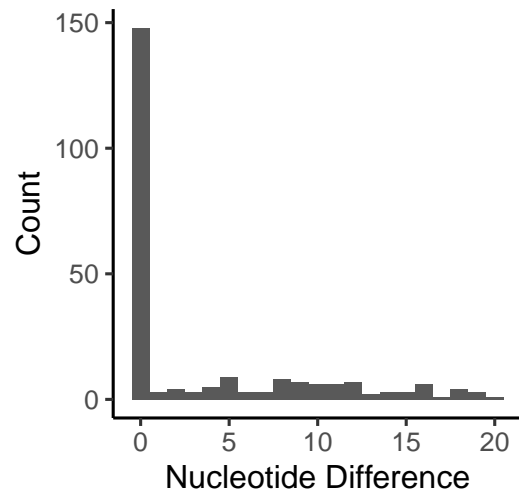
### IGHV1–18\*04

760 sequences assigned  
441 (58%) exact matches, in which:  
441 unique CDR3  
7 unique J



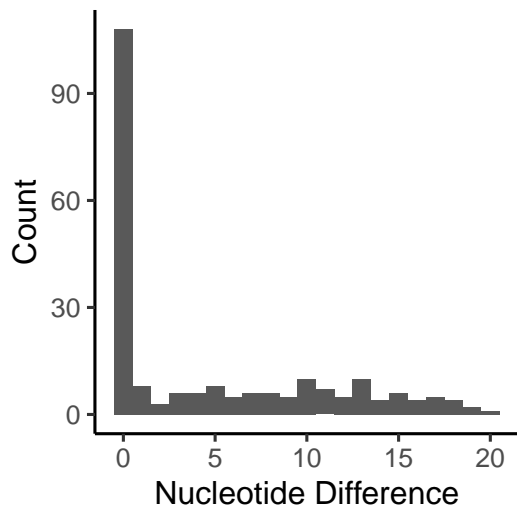
### IGHV1–46\*01

253 sequences assigned  
148 (58.5%) exact matches, in which:  
148 unique CDR3  
5 unique J



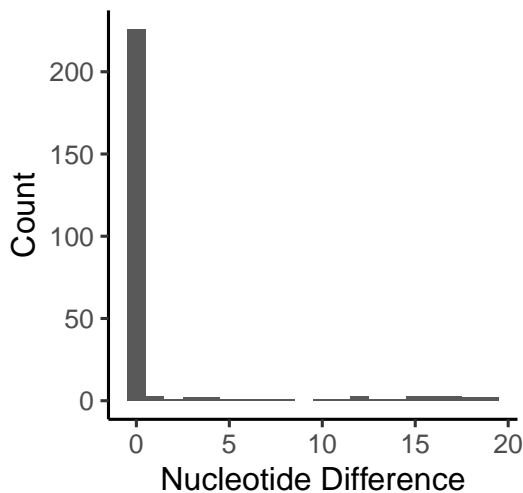
### IGHV1–3\*01\_05

242 sequences assigned  
108 (44.6%) exact matches, in which:  
108 unique CDR3  
6 unique J



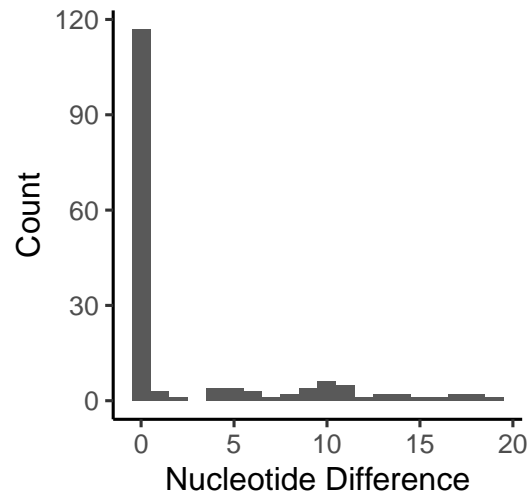
### IGHV1–24\*01

267 sequences assigned  
226 (84.6%) exact matches, in which:  
226 unique CDR3  
7 unique J



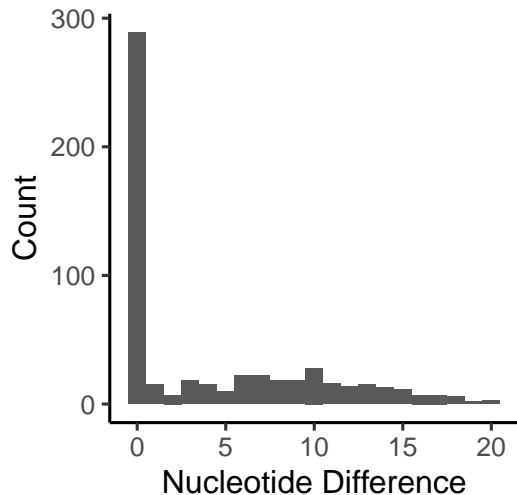
### IGHV1–46\*04

171 sequences assigned  
117 (68.4%) exact matches, in which:  
117 unique CDR3  
4 unique J



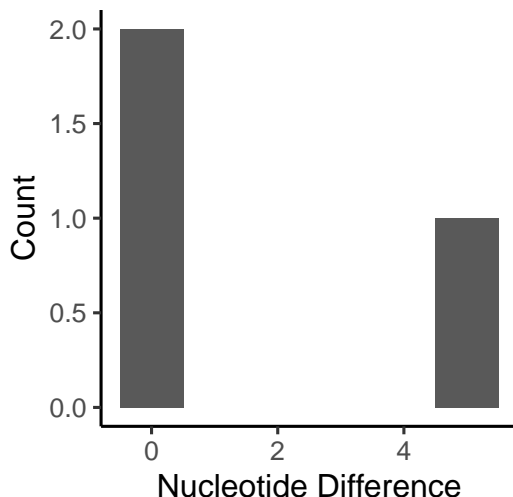
### IGHV1–18\*01

615 sequences assigned  
289 (47%) exact matches, in which:  
288 unique CDR3  
6 unique J



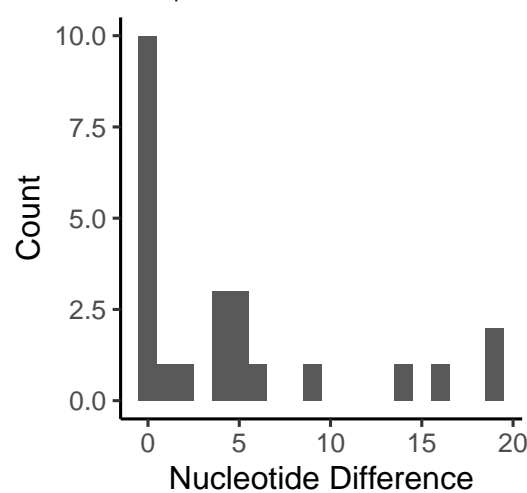
### IGHV1–45\*02

7 sequences assigned  
2 (28.6%) exact matches, in which:  
2 unique CDR3  
1 unique J

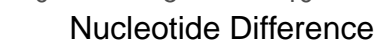


### IGHV1–58\*02

36 sequences assigned  
10 (27.8%) exact matches, in which:  
10 unique CDR3  
3 unique J



78 sequences assigned  
35 (44.9%) exact matches, in which:  
35 unique CDR3  
5 unique J



205 sequences assigned  
80 (39%) exact matches, in which:  
80 unique CDR3  
7 unique J



74 sequences assigned  
47 (63.5%) exact matches, in which:  
47 unique CDR3  
5 unique J



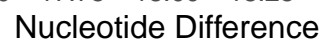
801 sequences assigned  
453 (56.6%) exact matches, in which:  
453 unique CDR3  
7 unique J



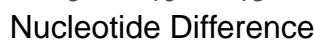
16 sequences assigned  
9 (56.2%) exact matches, in which:  
9 unique CDR3  
4 unique J



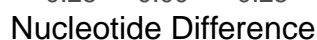
2 sequences assigned  
No exact matches.



387 sequences assigned  
316 (81.7%) exact matches, in which:  
316 unique CDR3  
7 unique J



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

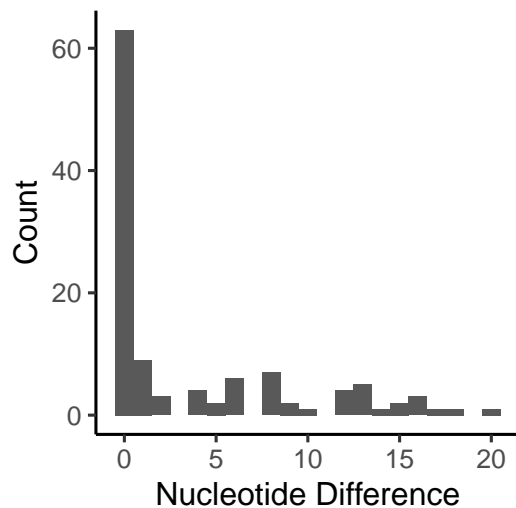


1418 sequences assigned  
393 (27.7%) exact matches, in which:  
388 unique CDR3  
7 unique J



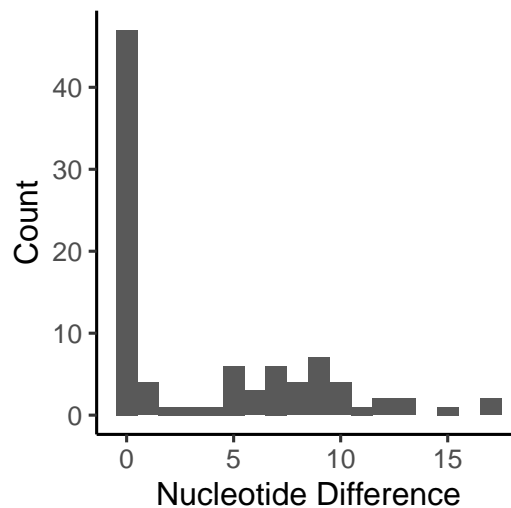
### IGHV3-11\*06

122 sequences assigned  
63 (51.6%) exact matches, in which:  
63 unique CDR3  
5 unique J



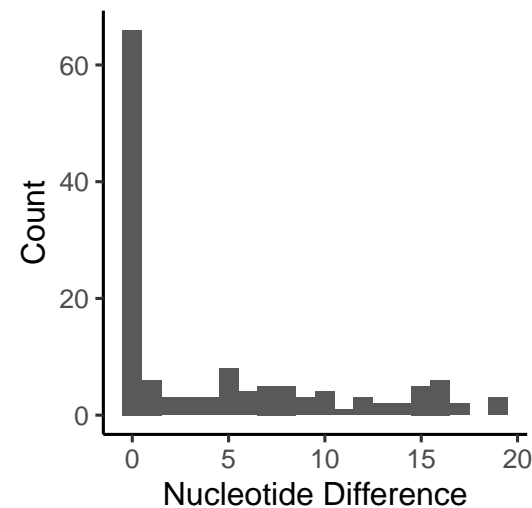
### IGHV3-13\*04

126 sequences assigned  
47 (37.3%) exact matches, in which:  
47 unique CDR3  
5 unique J



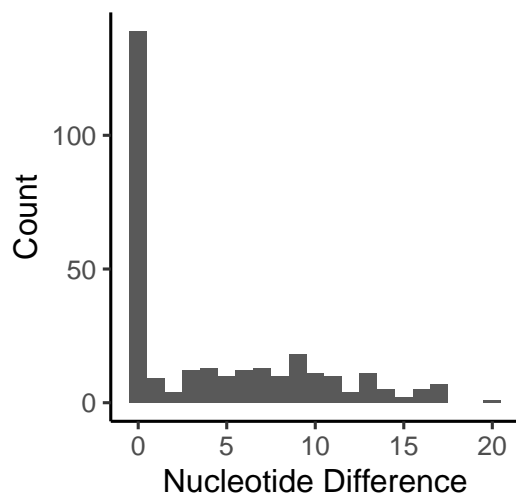
### IGHV3-20\*03\_04

139 sequences assigned  
66 (47.5%) exact matches, in which:  
66 unique CDR3  
6 unique J



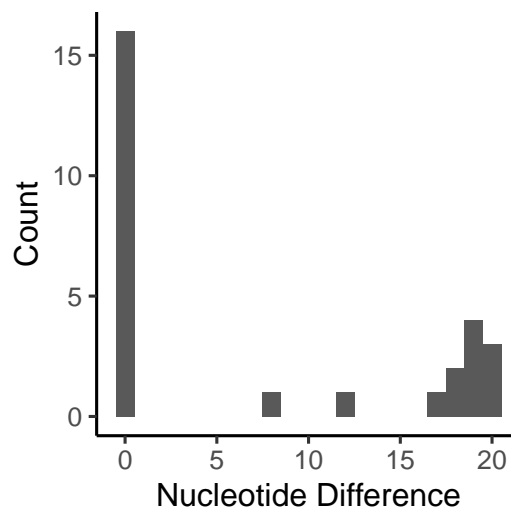
### IGHV3-11\*06\_T300C

309 sequences assigned  
139 (45%) exact matches, in which:  
139 unique CDR3  
6 unique J



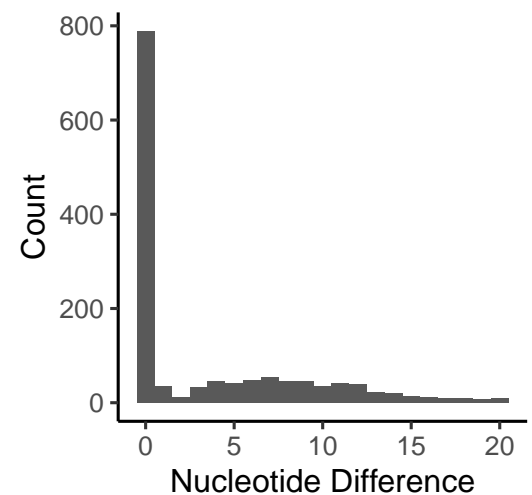
### IGHV3-13\*05

28 sequences assigned  
16 (57.1%) exact matches, in which:  
16 unique CDR3  
5 unique J



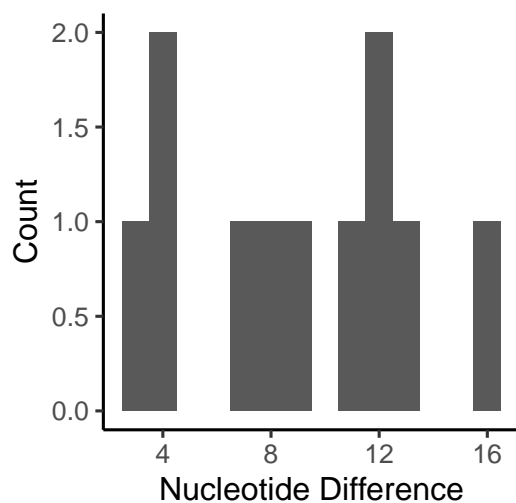
### IGHV3-21\*01\_02

1409 sequences assigned  
789 (56%) exact matches, in which:  
776 unique CDR3  
7 unique J



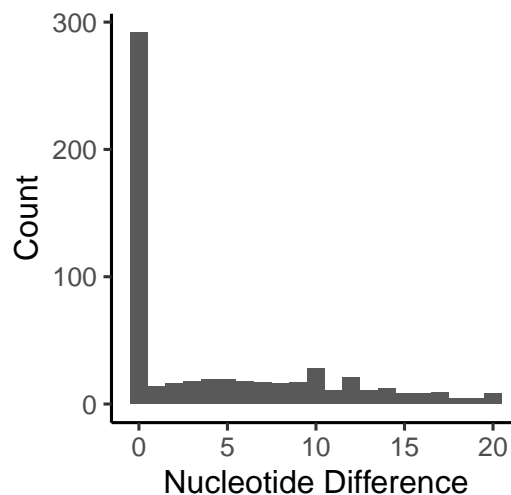
### IGHV3-13\*01

12 sequences assigned  
No exact matches.



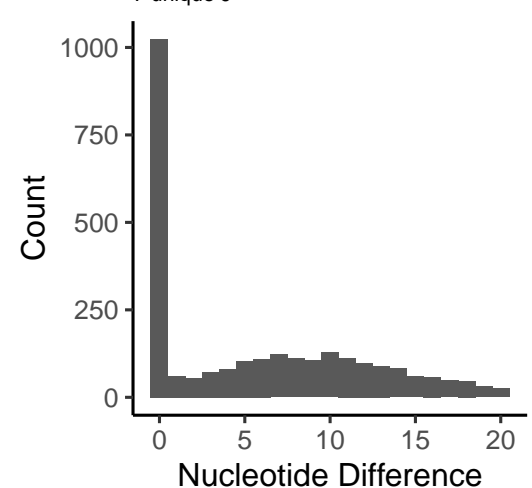
### IGHV3-15\*01\_02

607 sequences assigned  
292 (48.1%) exact matches, in which:  
291 unique CDR3  
7 unique J



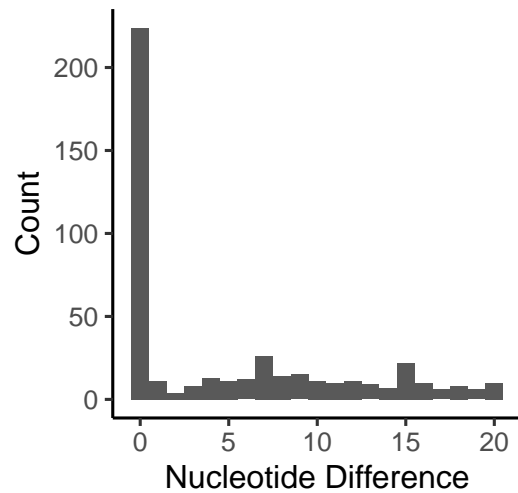
### IGHV3-23\*01\_04

2797 sequences assigned  
1024 (36.6%) exact matches, in which:  
1008 unique CDR3  
7 unique J



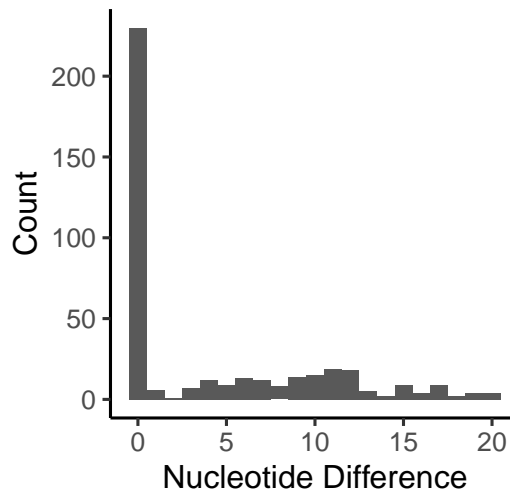
### IGHV3–30\*01

477 sequences assigned  
224 (47%) exact matches, in which:  
224 unique CDR3  
6 unique J



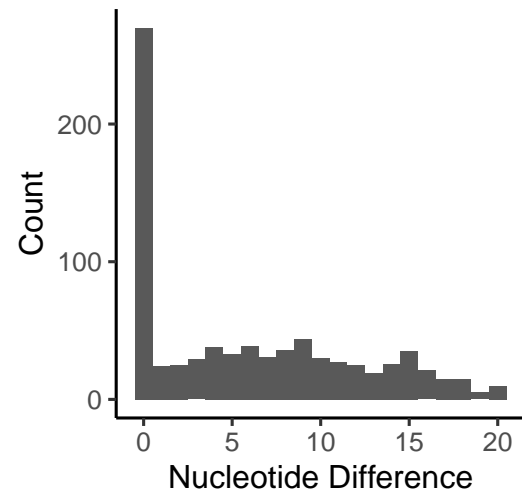
### IGHV3–33\*08

417 sequences assigned  
230 (55.2%) exact matches, in which:  
230 unique CDR3  
6 unique J



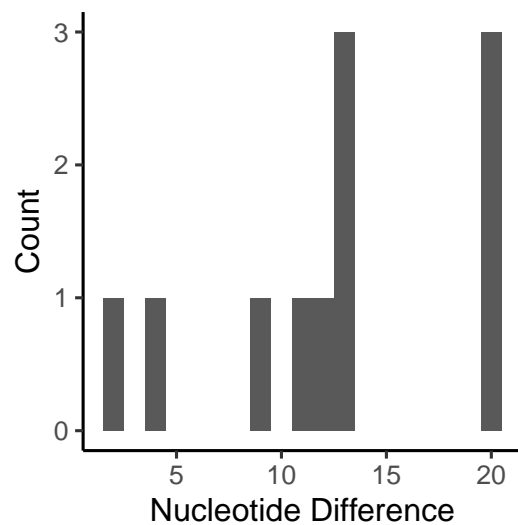
### IGHV3–48\*02

854 sequences assigned  
270 (31.6%) exact matches, in which:  
265 unique CDR3  
6 unique J



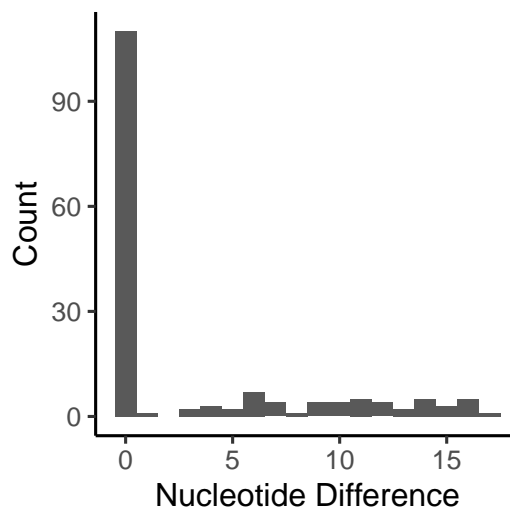
### IGHV3–30–3\*03

16 sequences assigned  
No exact matches.



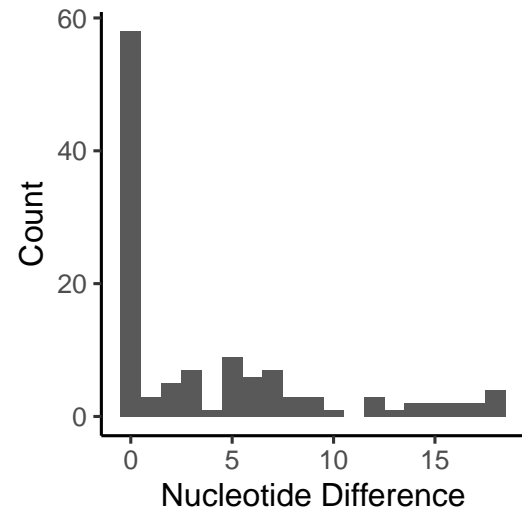
### IGHV3–43\*01

174 sequences assigned  
110 (63.2%) exact matches, in which:  
108 unique CDR3  
6 unique J



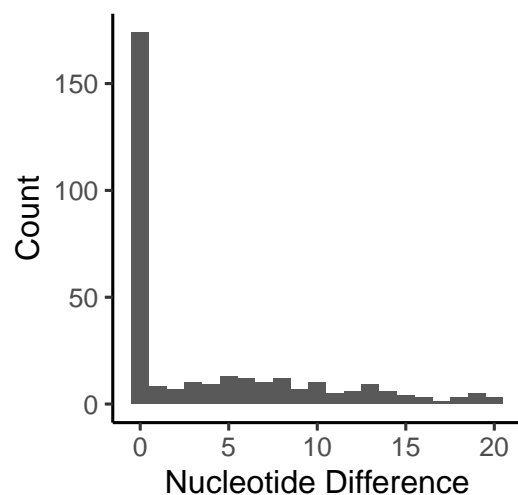
### IGHV3–49\*04

128 sequences assigned  
58 (45.3%) exact matches, in which:  
58 unique CDR3  
5 unique J



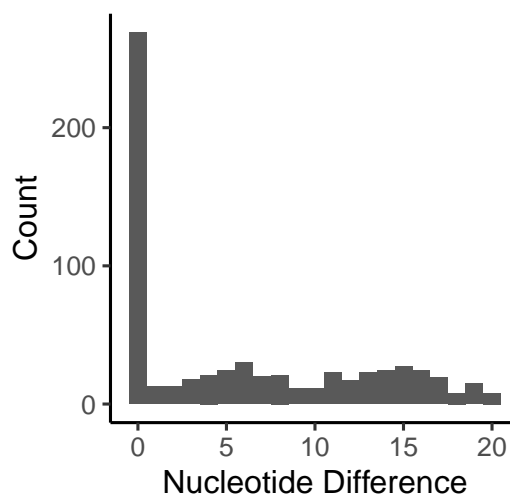
### IGHV3–33\*01

333 sequences assigned  
174 (52.3%) exact matches, in which:  
171 unique CDR3  
6 unique J



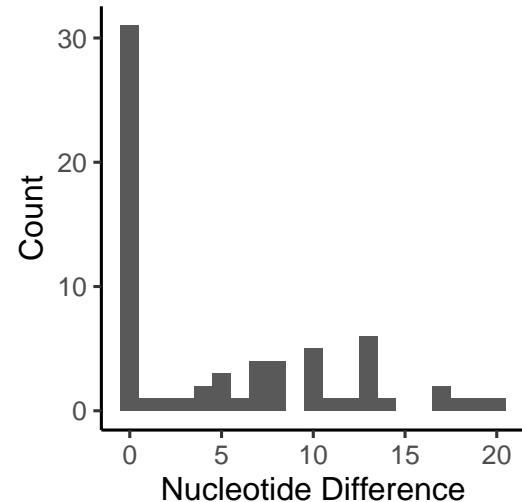
### IGHV3–48\*01

669 sequences assigned  
269 (40.2%) exact matches, in which:  
267 unique CDR3  
6 unique J



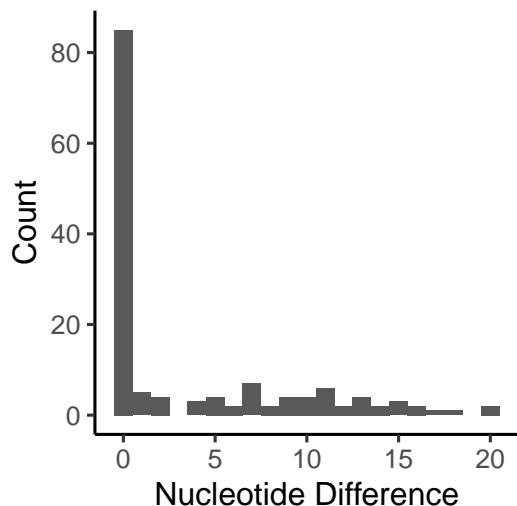
### IGHV3–49\*03\_05

67 sequences assigned  
31 (46.3%) exact matches, in which:  
31 unique CDR3  
5 unique J



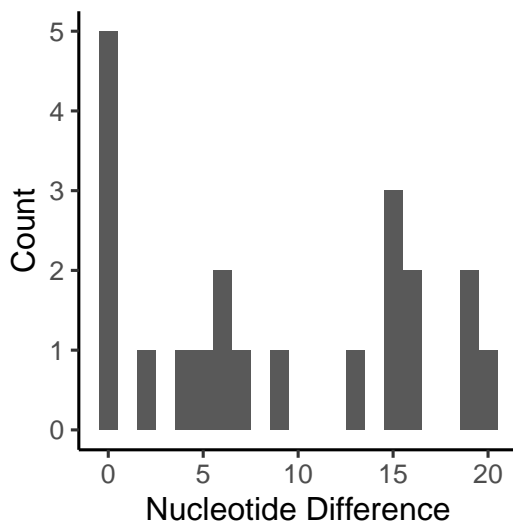
### IGHV3-53\*04

149 sequences assigned  
85 (57%) exact matches, in which:  
85 unique CDR3  
5 unique J



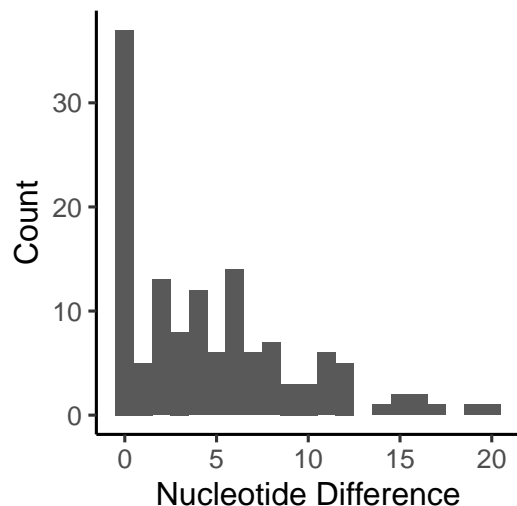
### IGHV3-64\*02\_07

21 sequences assigned  
5 (23.8%) exact matches, in which:  
4 unique CDR3  
2 unique J



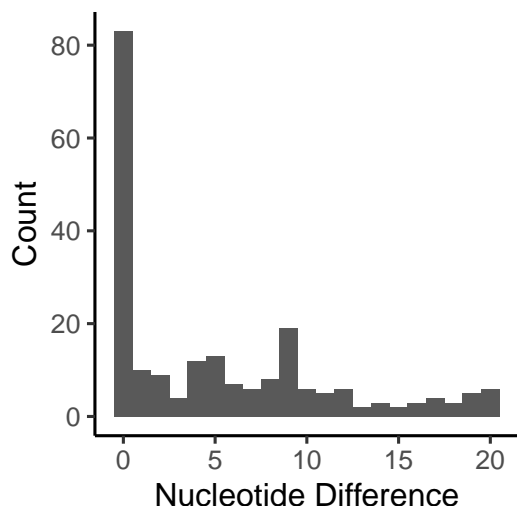
### IGHV3-73\*01\_02

134 sequences assigned  
37 (27.6%) exact matches, in which:  
37 unique CDR3  
6 unique J



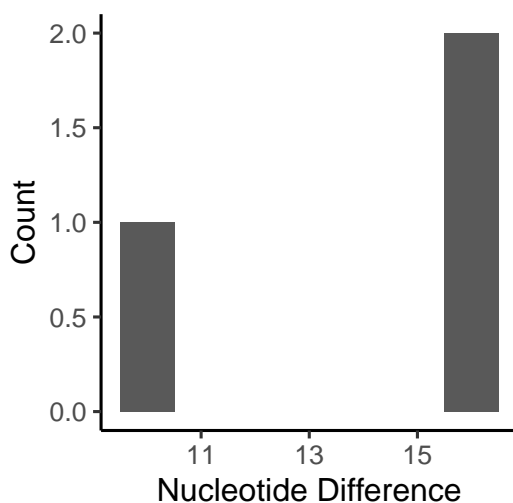
### IGHV3-53\*01\_02

221 sequences assigned  
83 (37.6%) exact matches, in which:  
83 unique CDR3  
6 unique J



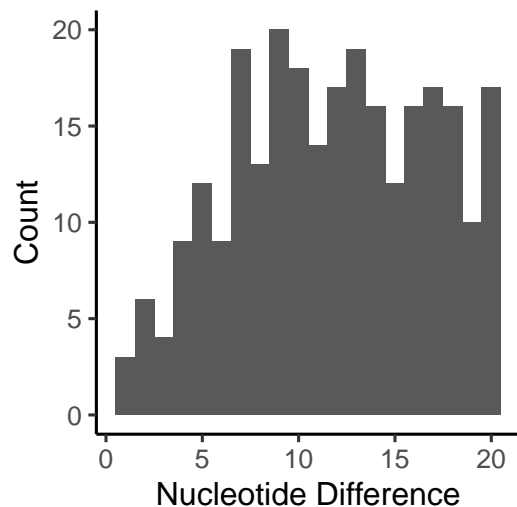
### IGHV3-69-1\*01

8 sequences assigned  
No exact matches.



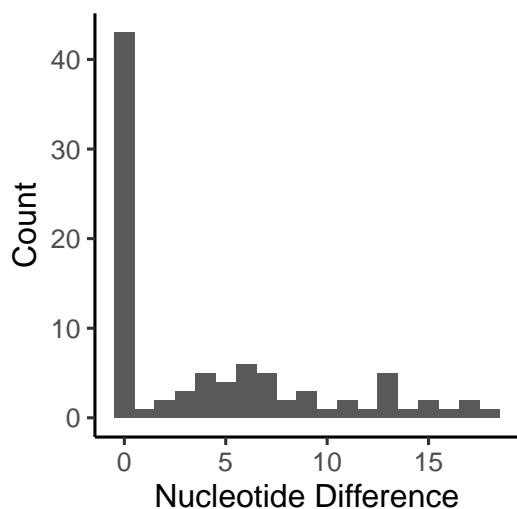
### IGHV3-74\*03

328 sequences assigned  
No exact matches.



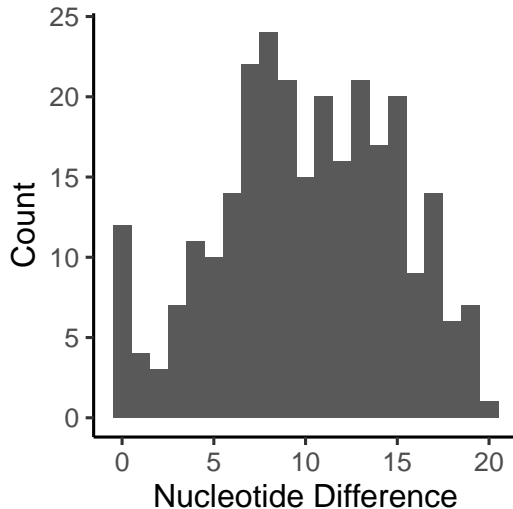
### IGHV3-64\*01

96 sequences assigned  
43 (44.8%) exact matches, in which:  
43 unique CDR3  
6 unique J



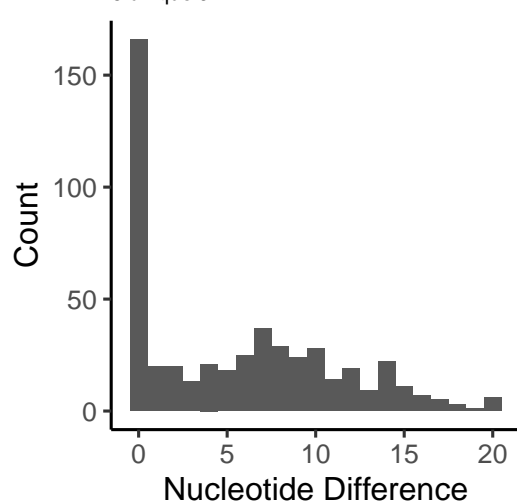
### IGHV3-72\*01

296 sequences assigned  
12 (4.1%) exact matches, in which:  
11 unique CDR3  
5 unique J



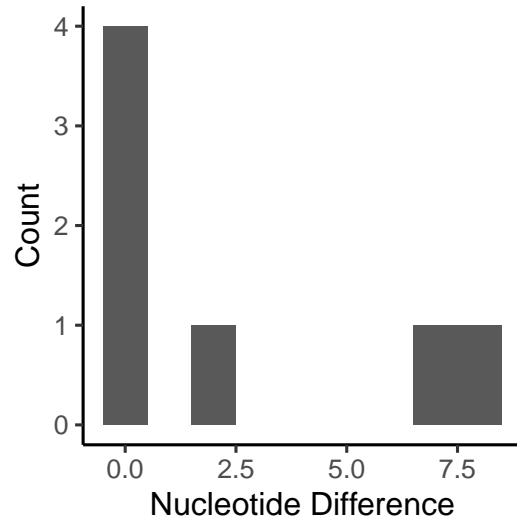
### IGHV3-74\*01\_02

522 sequences assigned  
166 (31.8%) exact matches, in which:  
161 unique CDR3  
6 unique J



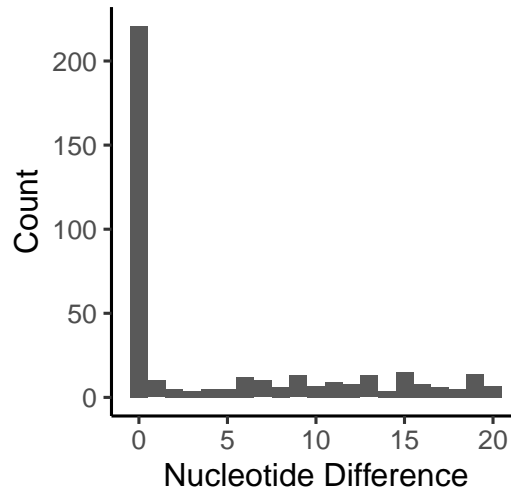
### IGHV3-43D\*04

7 sequences assigned  
4 (57.1%) exact matches, in which:  
4 unique CDR3  
2 unique J



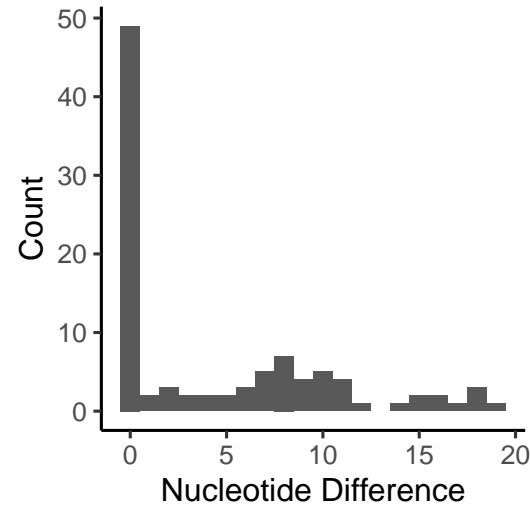
### IGHV4-4\*02\_03

422 sequences assigned  
221 (52.4%) exact matches, in which:  
219 unique CDR3  
7 unique J



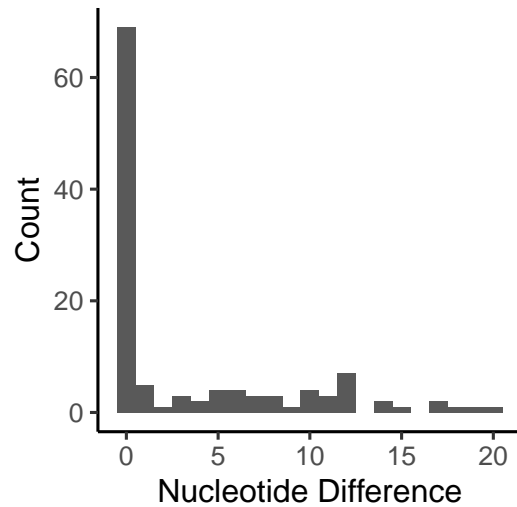
### IGHV4-31\*01

127 sequences assigned  
49 (38.6%) exact matches, in which:  
48 unique CDR3  
5 unique J



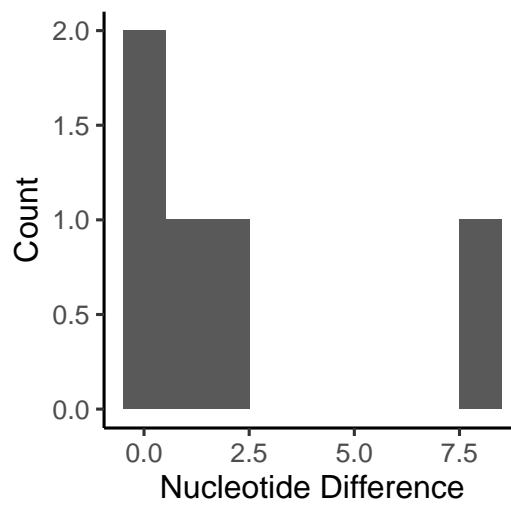
### IGHV3-64D\*06

123 sequences assigned  
69 (56.1%) exact matches, in which:  
69 unique CDR3  
6 unique J



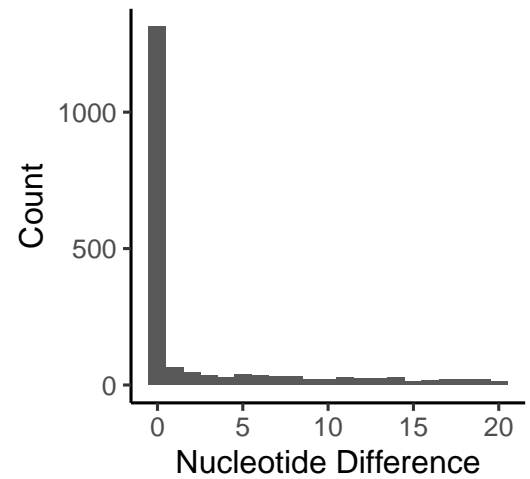
### IGHV4-28\*01\_07

6 sequences assigned  
2 (33.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



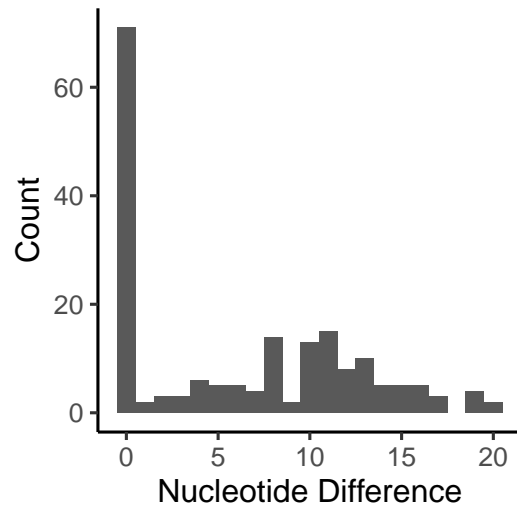
### IGHV4-34\*01\_02

1945 sequences assigned  
1313 (67.5%) exact matches, in which:  
1299 unique CDR3  
7 unique J



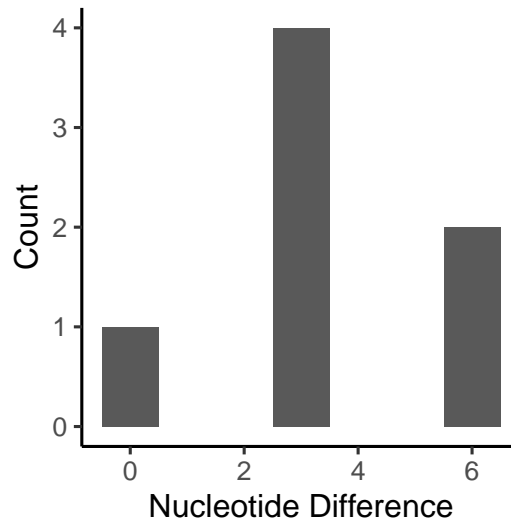
### IGHV3-64D\*09

194 sequences assigned  
71 (36.6%) exact matches, in which:  
69 unique CDR3  
5 unique J



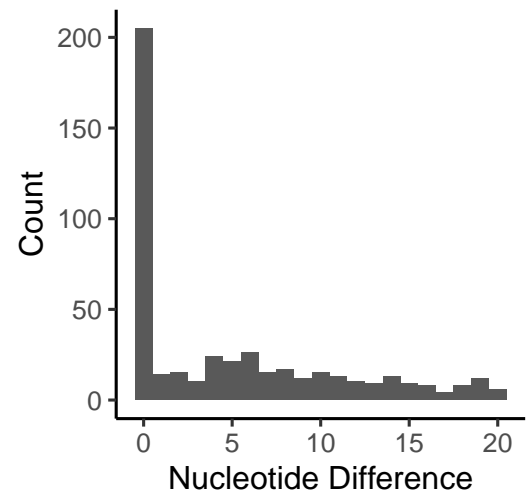
### IGHV4-28\*02\_05

7 sequences assigned  
1 (14.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



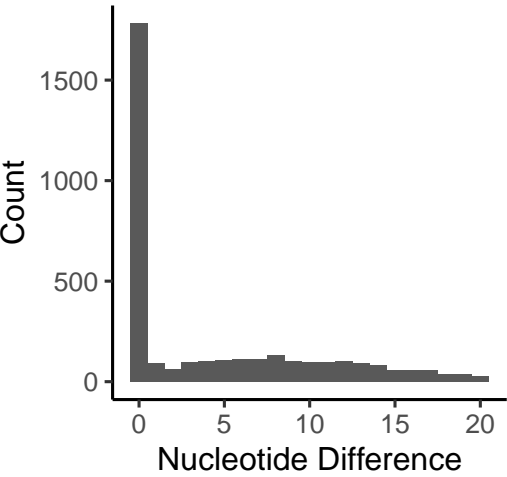
### IGHV4-38-2\*02\_A70G

493 sequences assigned  
205 (41.6%) exact matches, in which:  
204 unique CDR3  
6 unique J



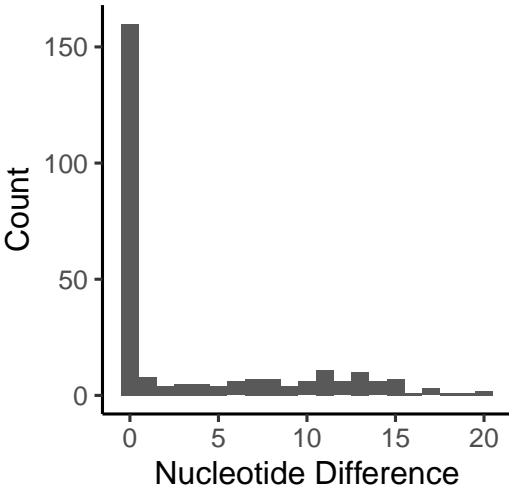
IGHV4–39\*02\_C258G

3666 sequences assigned  
1782 (48.6%) exact matches, in which:  
1760 unique CDR3  
7 unique J



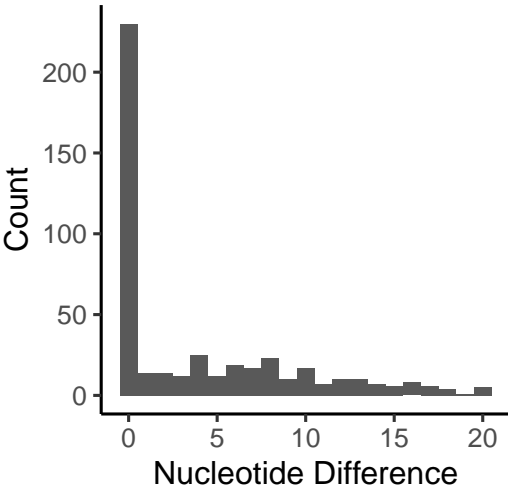
IGHV4–61\*01

297 sequences assigned  
160 (53.9%) exact matches, in which:  
159 unique CDR3  
6 unique J



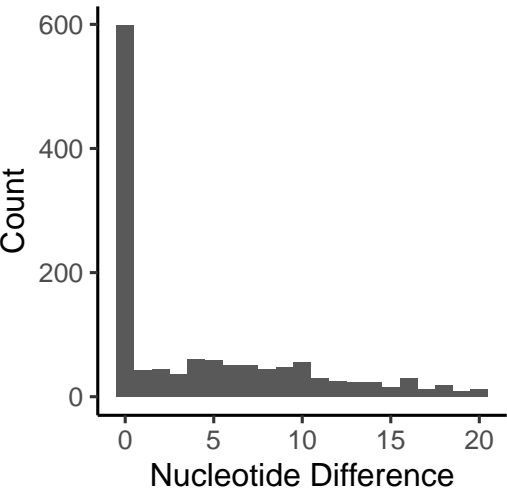
IGHV5–51\*07\_A128G

478 sequences assigned  
230 (48.1%) exact matches, in which:  
230 unique CDR3  
7 unique J



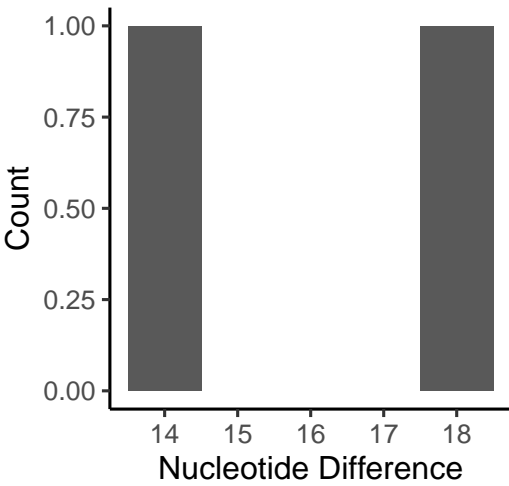
IGHV4–59\*08

1386 sequences assigned  
599 (43.2%) exact matches, in which:  
595 unique CDR3  
7 unique J



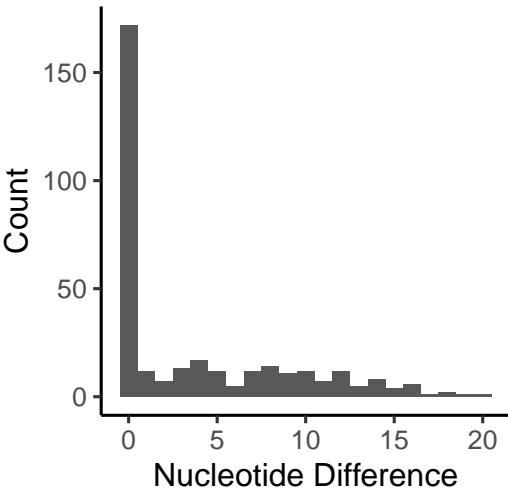
IGHV4/OR15–8\*01

3 sequences assigned  
No exact matches.



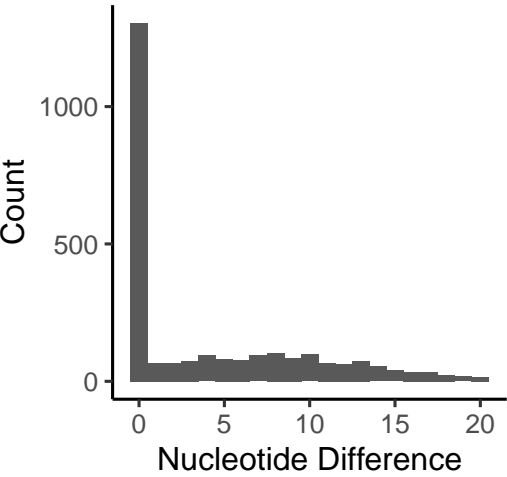
IGHV6–1\*01\_02

344 sequences assigned  
172 (50%) exact matches, in which:  
172 unique CDR3  
7 unique J



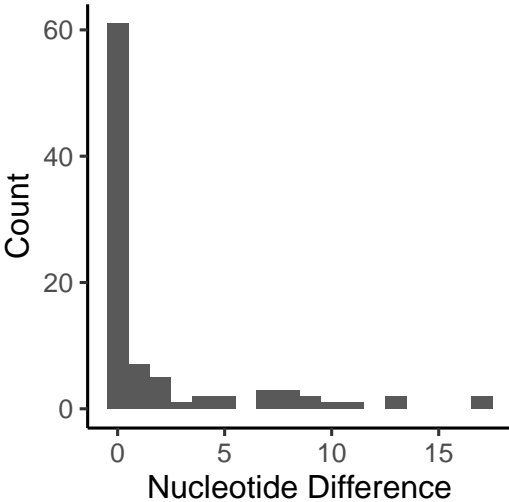
IGHV4–59\*02\_G88A

2691 sequences assigned  
1304 (48.5%) exact matches, in which:  
1292 unique CDR3  
7 unique J



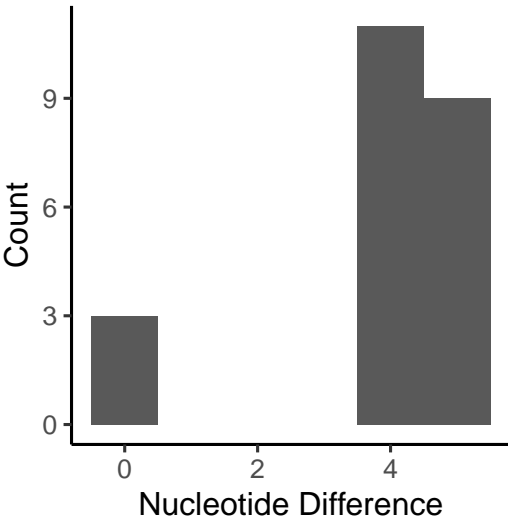
IGHV5–10–1\*01\_03

99 sequences assigned  
61 (61.6%) exact matches, in which:  
61 unique CDR3  
6 unique J



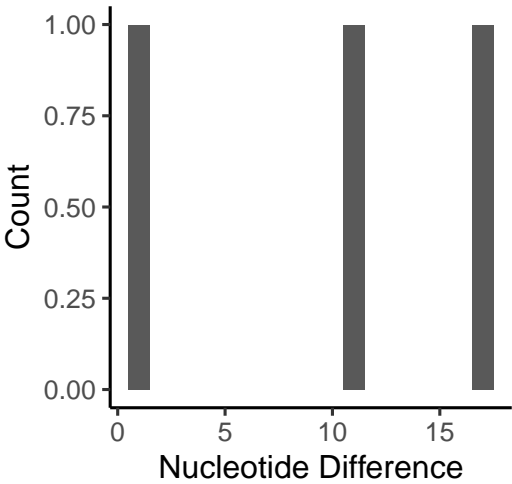
IGHV7–4–1\*01

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



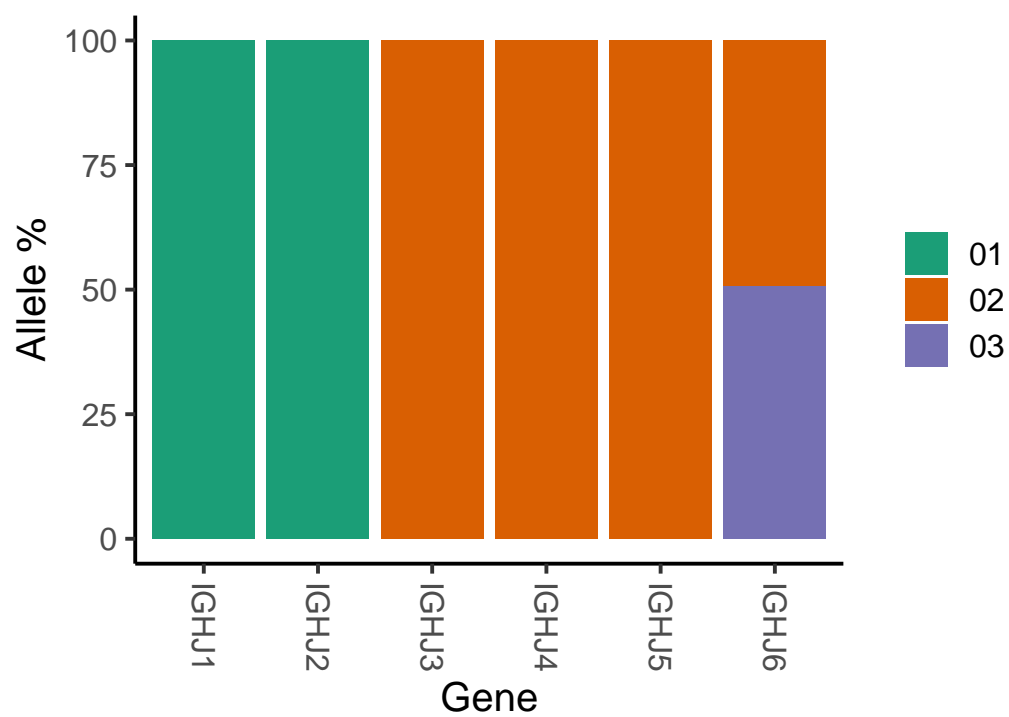
# IGHV7-4-1\*02

3 sequences assigned  
No exact matches.





Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.