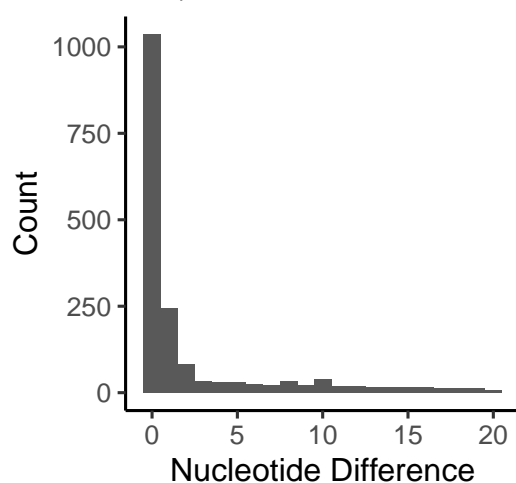


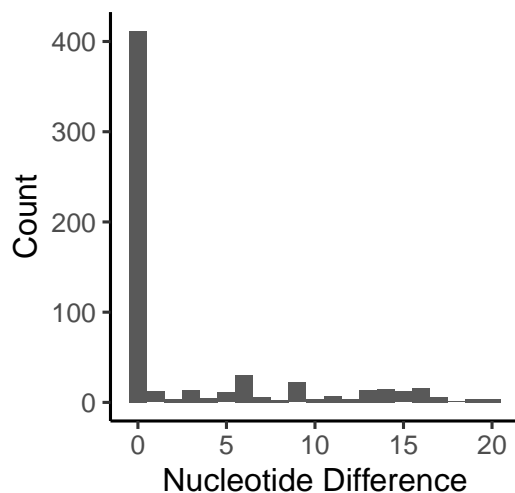
### IGHV1-2\*02

1988 sequences assigned  
1036 (52.1%) exact matches, in which:  
1019 unique CDR3  
7 unique J



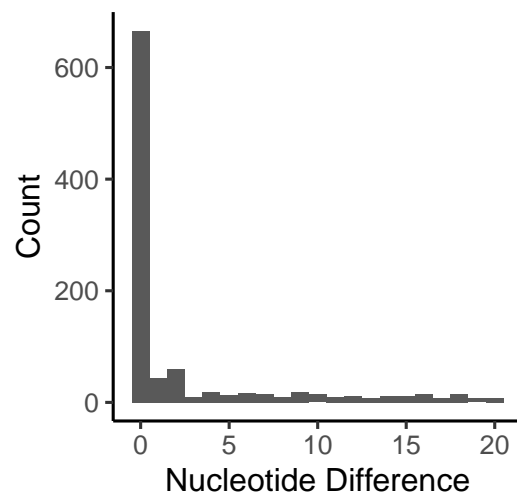
### IGHV1-18\*01

814 sequences assigned  
412 (50.6%) exact matches, in which:  
408 unique CDR3  
7 unique J



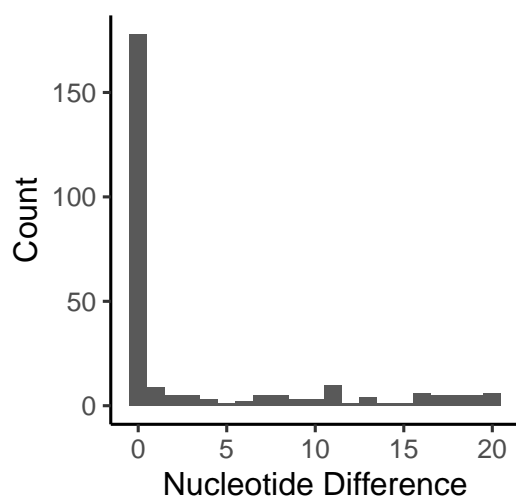
### IGHV1-46\*01

1075 sequences assigned  
666 (62%) exact matches, in which:  
662 unique CDR3  
7 unique J



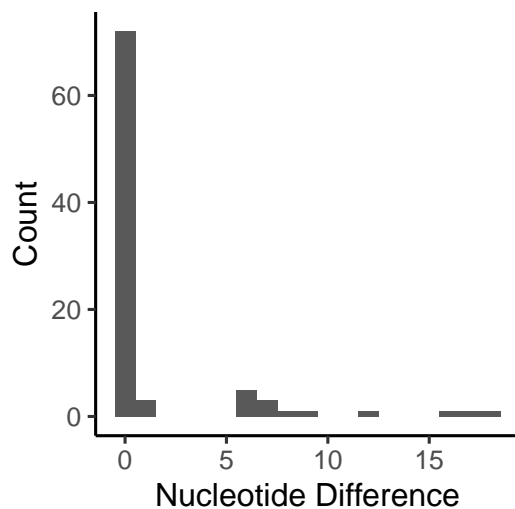
### IGHV1-3\*01\_05

291 sequences assigned  
178 (61.2%) exact matches, in which:  
176 unique CDR3  
6 unique J



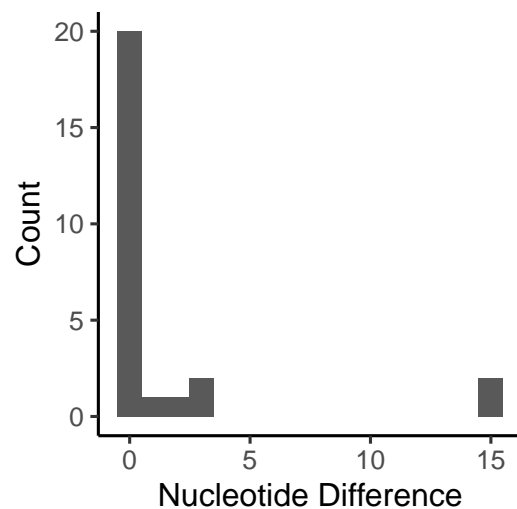
### IGHV1-24\*01

101 sequences assigned  
72 (71.3%) exact matches, in which:  
72 unique CDR3  
6 unique J



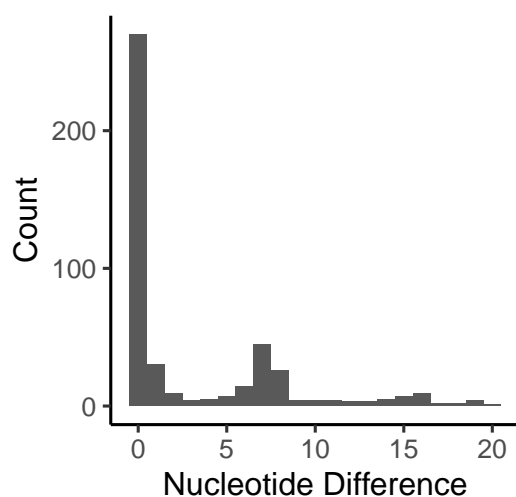
### IGHV1-58\*02

30 sequences assigned  
20 (66.7%) exact matches, in which:  
20 unique CDR3  
5 unique J



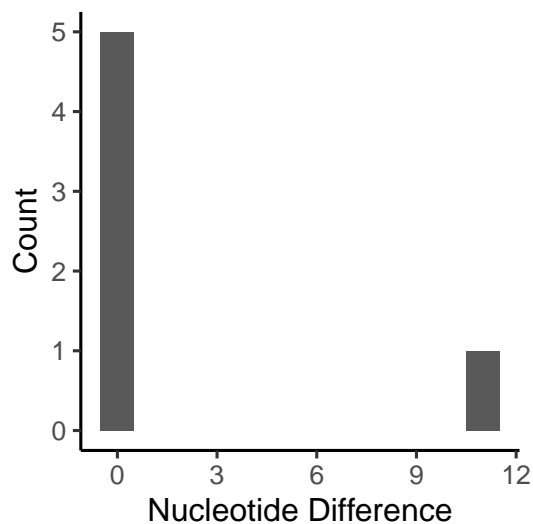
### IGHV1-8\*01

501 sequences assigned  
270 (53.9%) exact matches, in which:  
265 unique CDR3  
7 unique J



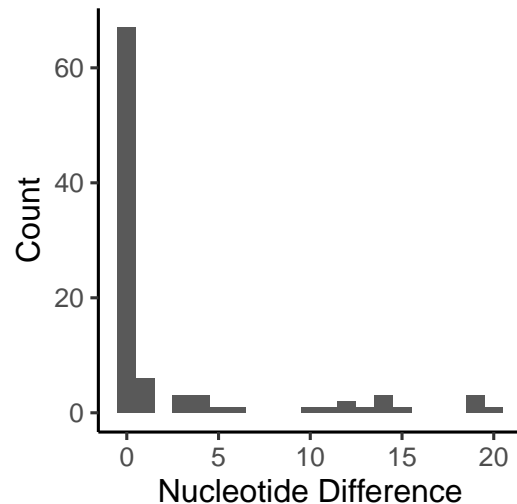
### IGHV1-45\*02

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



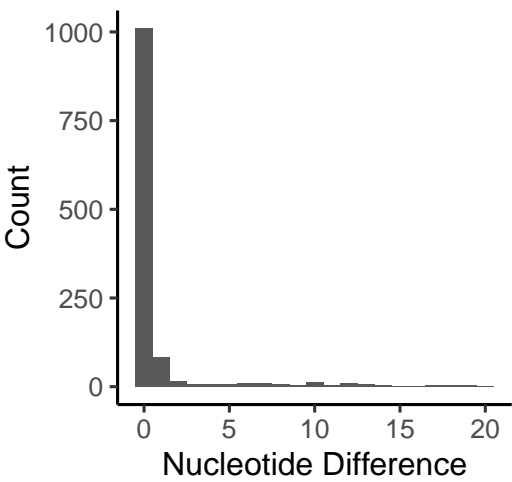
### IGHV1-58\*01\_03

97 sequences assigned  
67 (69.1%) exact matches, in which:  
66 unique CDR3  
5 unique J



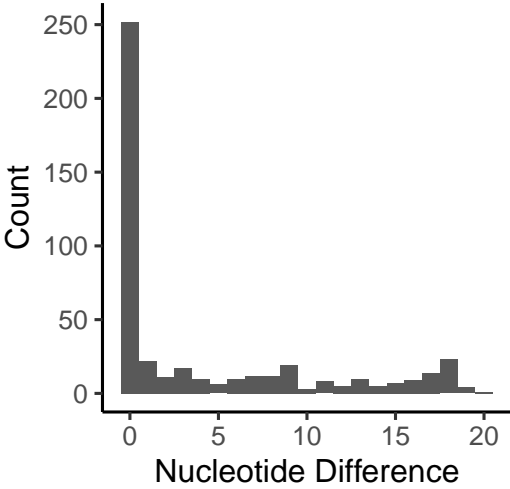
IGHV1-69\*01\_12\_13

1242 sequences assigned  
1010 (81.3%) exact matches, in which:  
1000 unique CDR3  
7 unique J



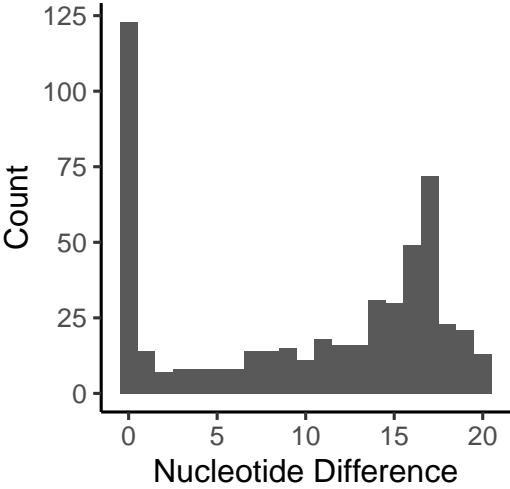
IGHV2-5\*02

490 sequences assigned  
252 (51.4%) exact matches, in which:  
245 unique CDR3  
7 unique J



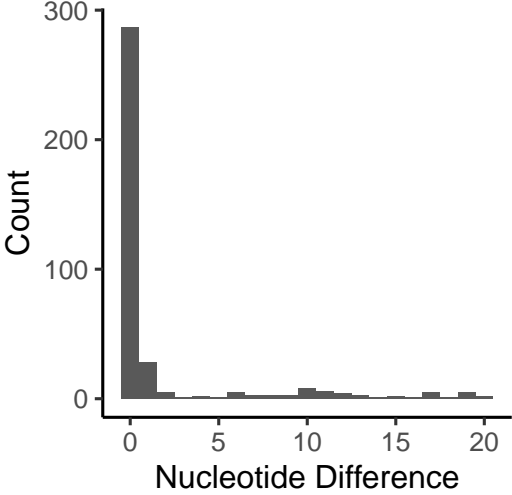
IGHV3-7\*01

645 sequences assigned  
123 (19.1%) exact matches, in which:  
91 unique CDR3  
6 unique J



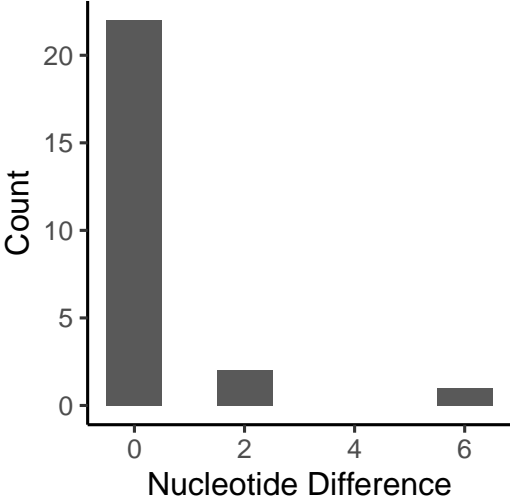
IGHV1-69\*10

395 sequences assigned  
287 (72.7%) exact matches, in which:  
283 unique CDR3  
7 unique J



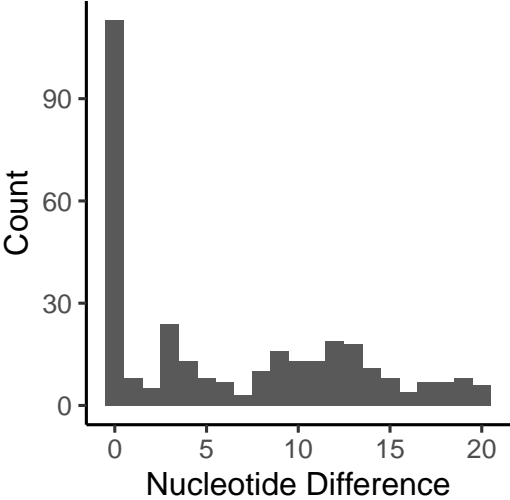
IGHV2-26\*01

25 sequences assigned  
22 (88%) exact matches, in which:  
20 unique CDR3  
5 unique J



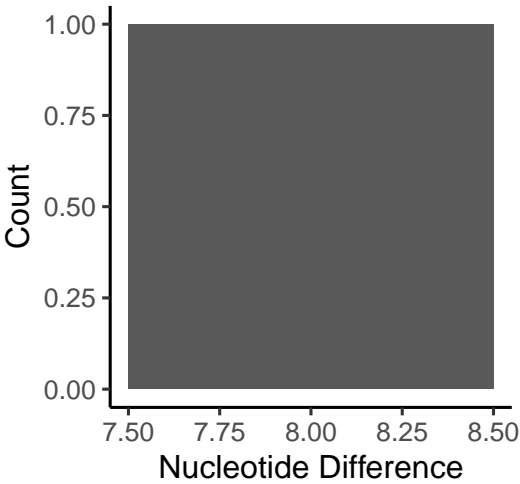
IGHV3-7\*04

387 sequences assigned  
113 (29.2%) exact matches, in which:  
86 unique CDR3  
5 unique J



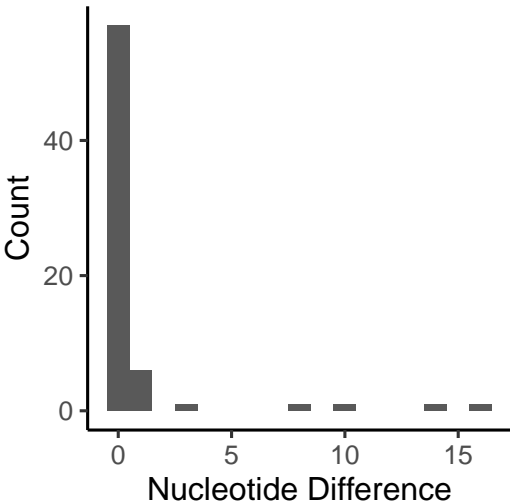
IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



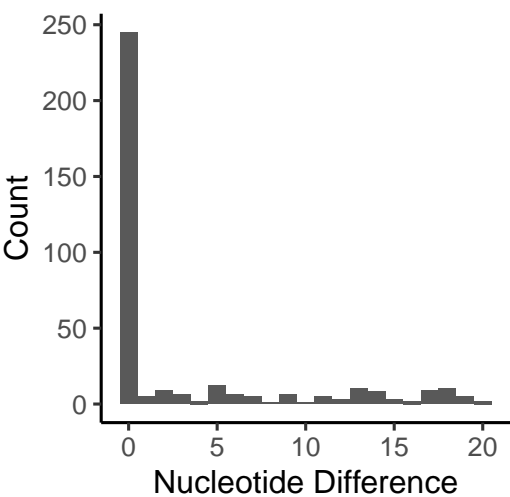
IGHV2-70\*01

70 sequences assigned  
57 (81.4%) exact matches, in which:  
55 unique CDR3  
5 unique J



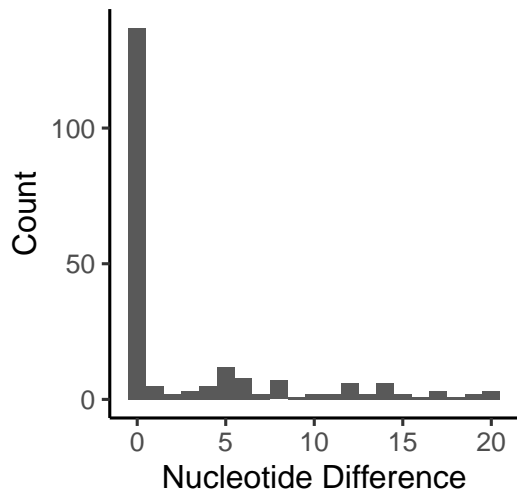
IGHV3-9\*01

370 sequences assigned  
245 (66.2%) exact matches, in which:  
191 unique CDR3  
6 unique J



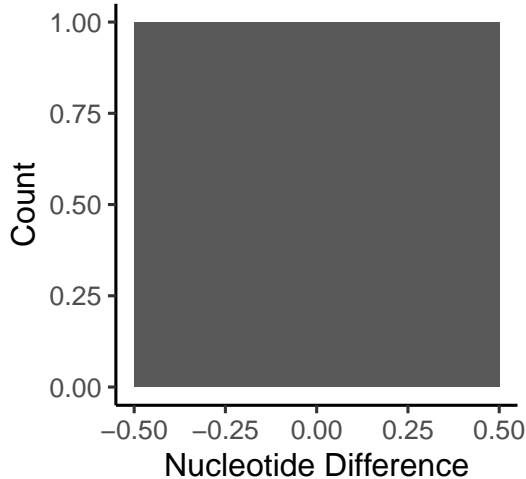
### IGHV3-11\*01

244 sequences assigned  
137 (56.1%) exact matches, in which:  
104 unique CDR3  
6 unique J



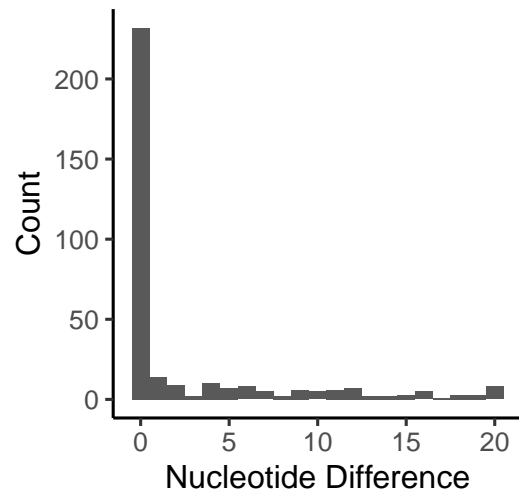
### IGHV3-19\*01

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



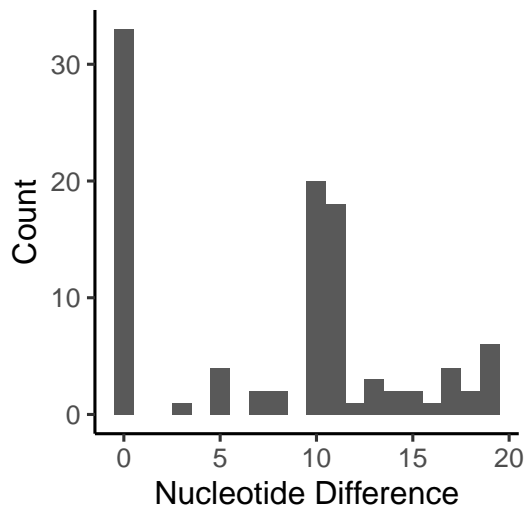
### IGHV3-21\*01\_02

408 sequences assigned  
232 (56.9%) exact matches, in which:  
182 unique CDR3  
6 unique J



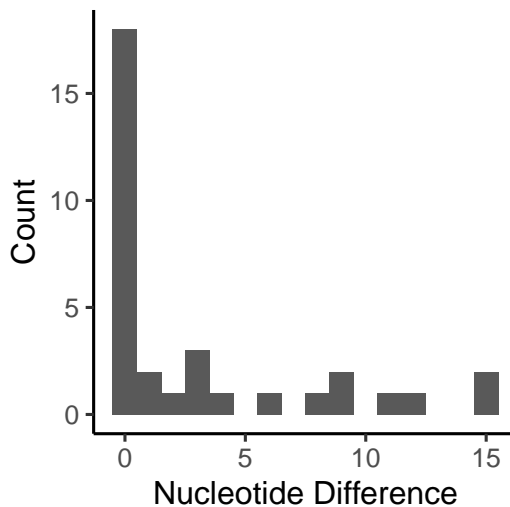
### IGHV3-13\*01

132 sequences assigned  
33 (25%) exact matches, in which:  
24 unique CDR3  
6 unique J



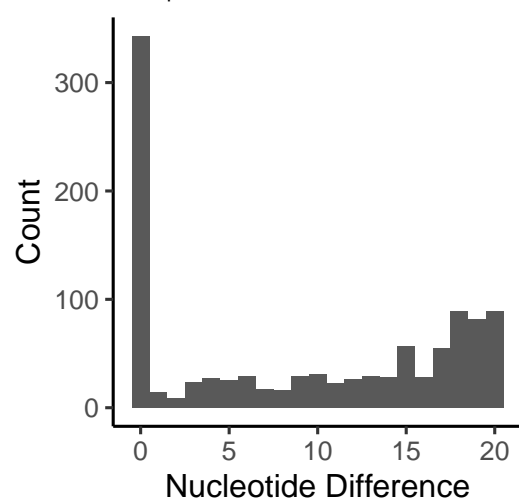
### IGHV3-20\*01\_02

33 sequences assigned  
18 (54.5%) exact matches, in which:  
10 unique CDR3  
4 unique J



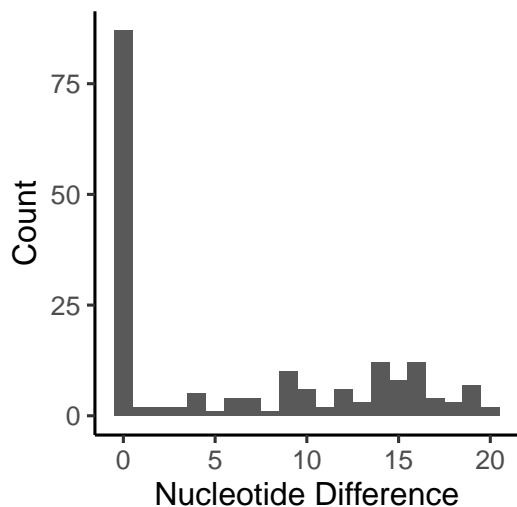
### IGHV3-23\*01\_04

1671 sequences assigned  
343 (20.5%) exact matches, in which:  
253 unique CDR3  
6 unique J



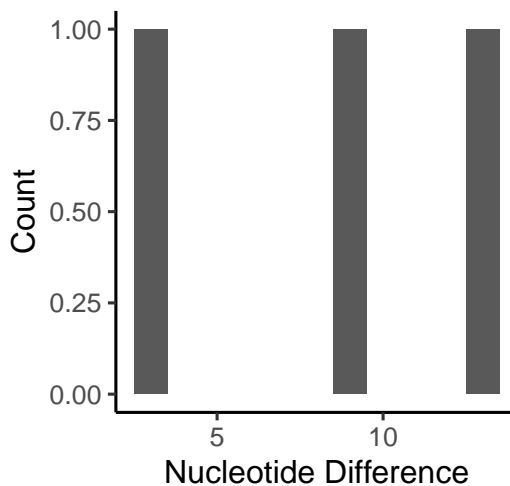
### IGHV3-15\*01\_02

250 sequences assigned  
87 (34.8%) exact matches, in which:  
66 unique CDR3  
5 unique J



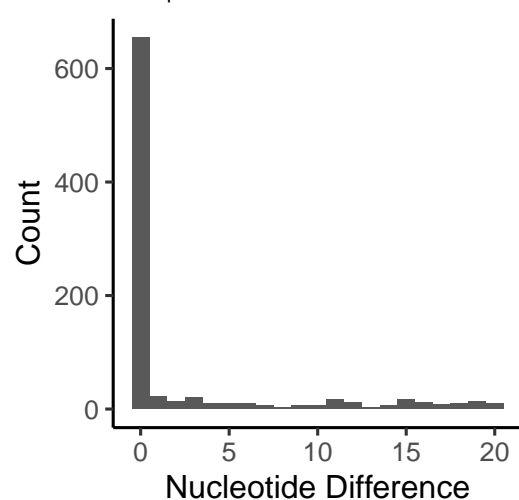
### IGHV3-20\*03\_04

5 sequences assigned  
No exact matches.



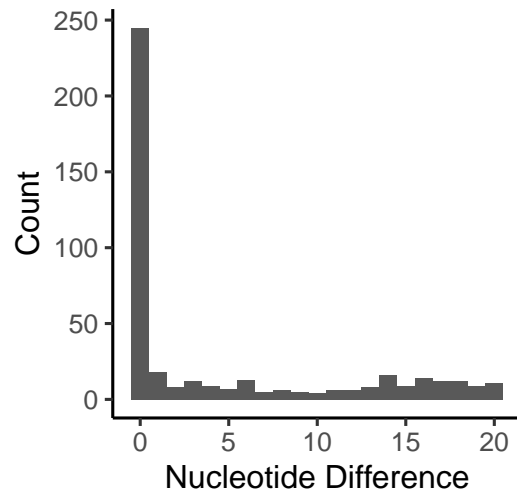
### IGHV3-30-3\*01

929 sequences assigned  
655 (70.5%) exact matches, in which:  
501 unique CDR3  
7 unique J



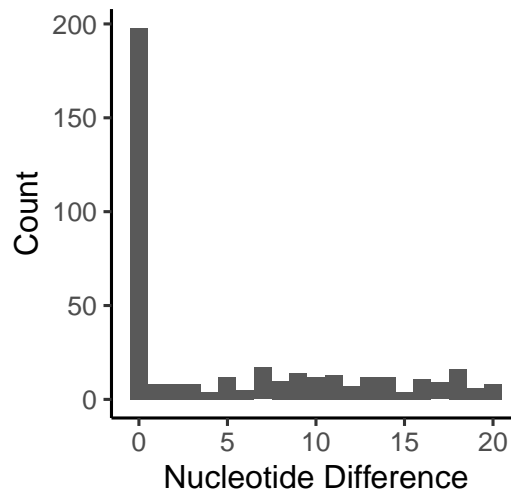
### IGHV3–33\*01

674 sequences assigned  
245 (36.4%) exact matches, in which:  
191 unique CDR3  
7 unique J



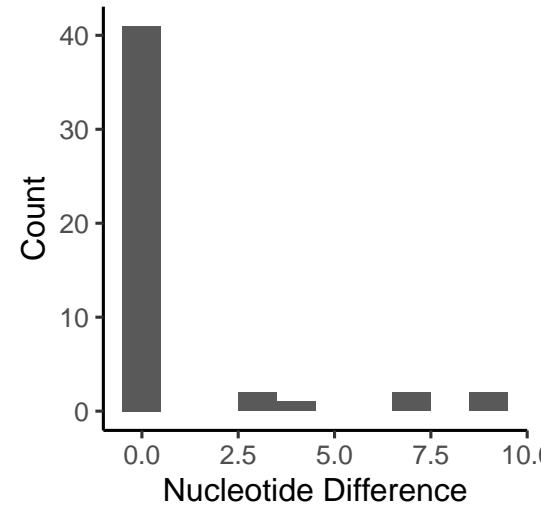
### IGHV3–48\*04

480 sequences assigned  
198 (41.2%) exact matches, in which:  
152 unique CDR3  
6 unique J



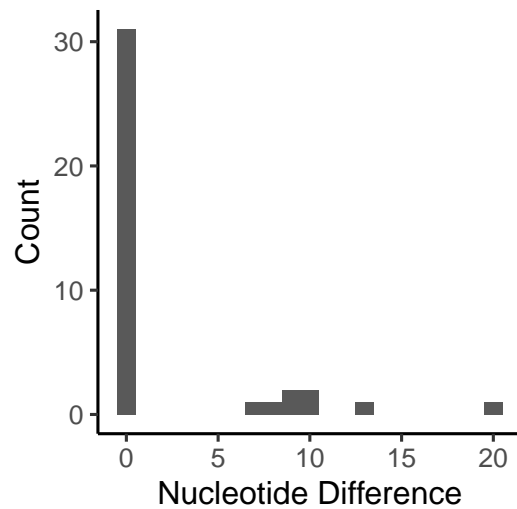
### IGHV3–53\*04

51 sequences assigned  
41 (80.4%) exact matches, in which:  
32 unique CDR3  
5 unique J



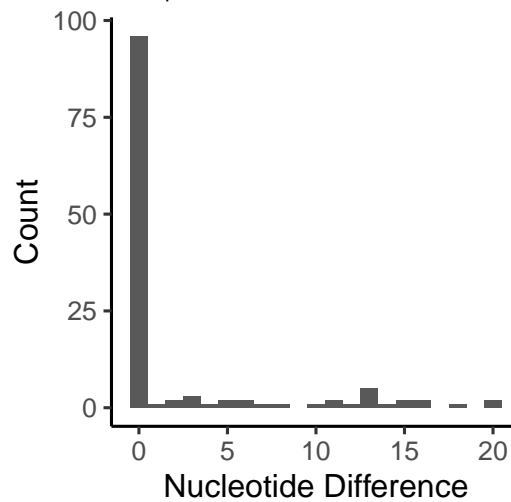
### IGHV3–43\*01

45 sequences assigned  
31 (68.9%) exact matches, in which:  
23 unique CDR3  
6 unique J



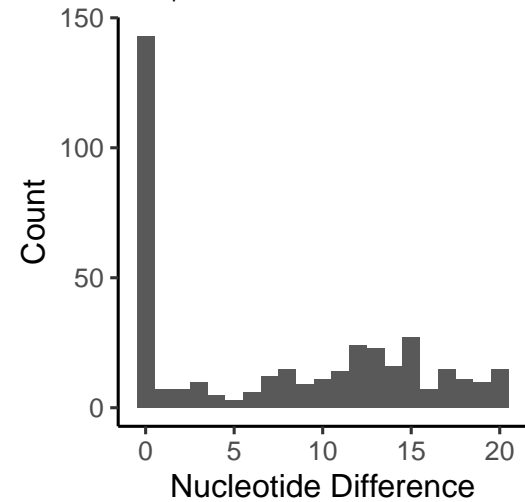
### IGHV3–49\*03\_05

153 sequences assigned  
96 (62.7%) exact matches, in which:  
78 unique CDR3  
6 unique J



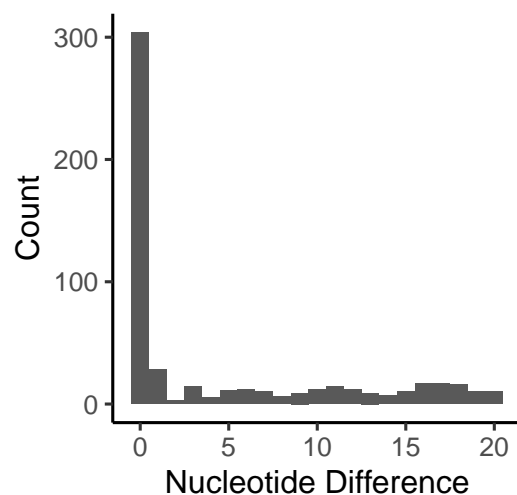
### IGHV3–53\*01\_02

489 sequences assigned  
143 (29.2%) exact matches, in which:  
110 unique CDR3  
5 unique J



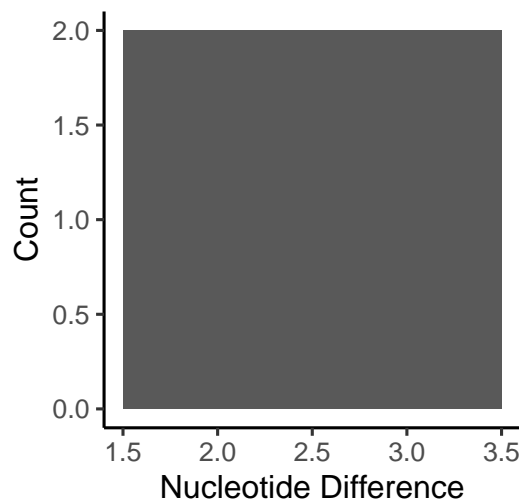
### IGHV3–48\*02

628 sequences assigned  
304 (48.4%) exact matches, in which:  
217 unique CDR3  
5 unique J



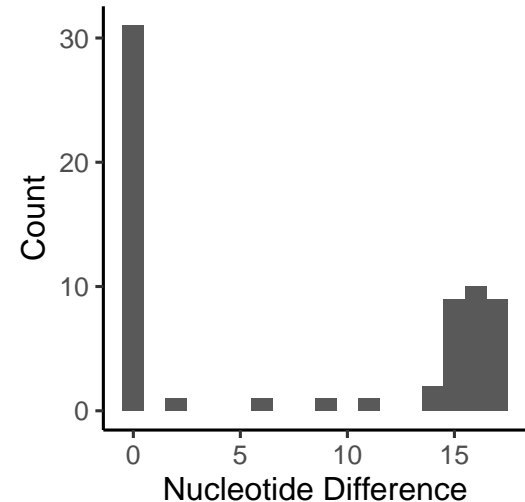
### IGHV3–52\*01\_03

4 sequences assigned  
No exact matches.



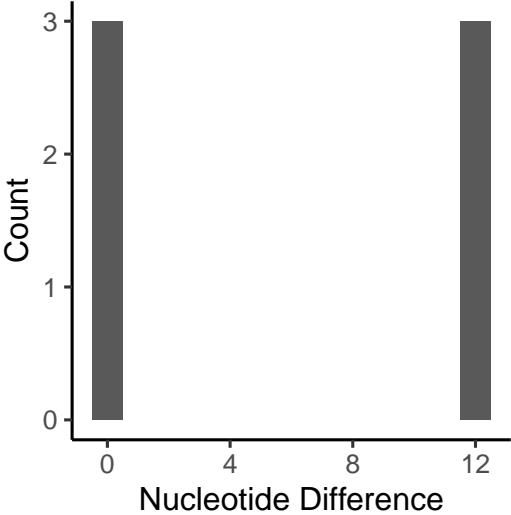
### IGHV3–64\*01

69 sequences assigned  
31 (44.9%) exact matches, in which:  
21 unique CDR3  
4 unique J



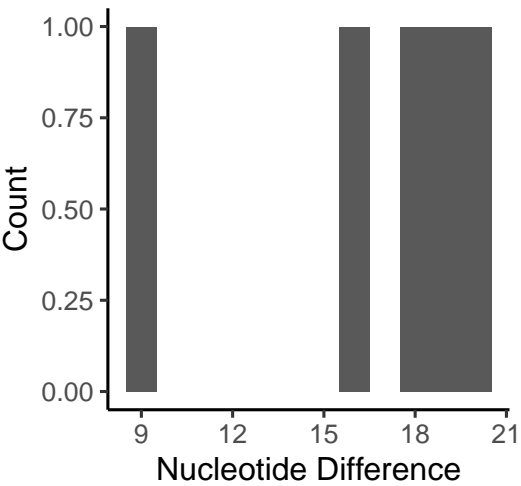
IGHV3-64\*02\_07

8 sequences assigned  
3 (37.5%) exact matches, in which:  
2 unique CDR3  
2 unique J



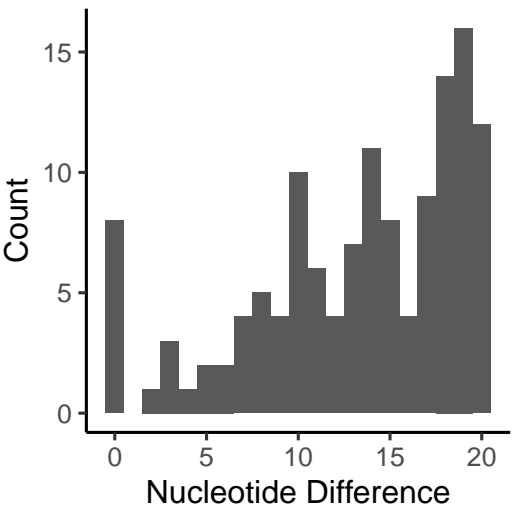
IGHV3-66\*04

7 sequences assigned  
No exact matches.



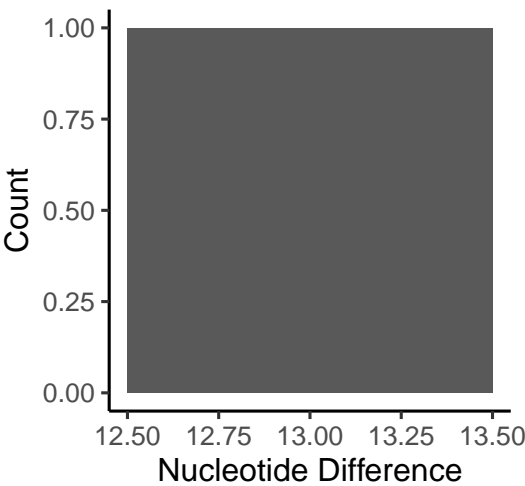
IGHV3-72\*01

269 sequences assigned  
8 (3%) exact matches, in which:  
7 unique CDR3  
4 unique J



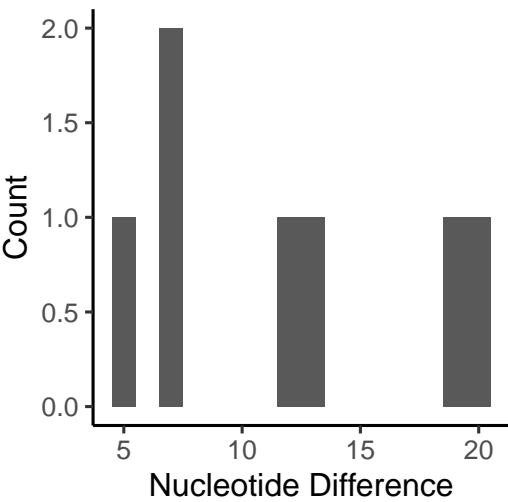
IGHV3-66\*01

1 sequences assigned  
No exact matches.



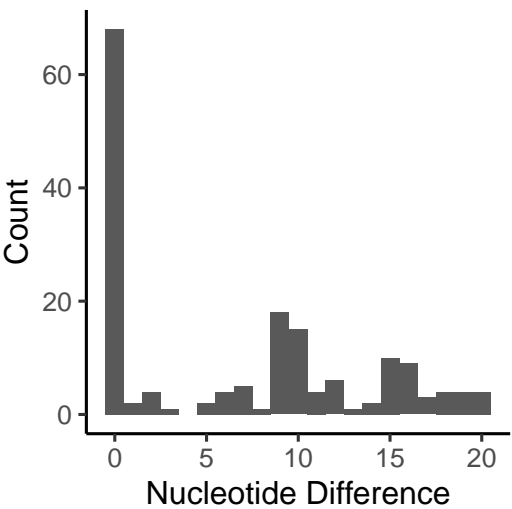
IGHV3-69-1\*02

8 sequences assigned  
No exact matches.



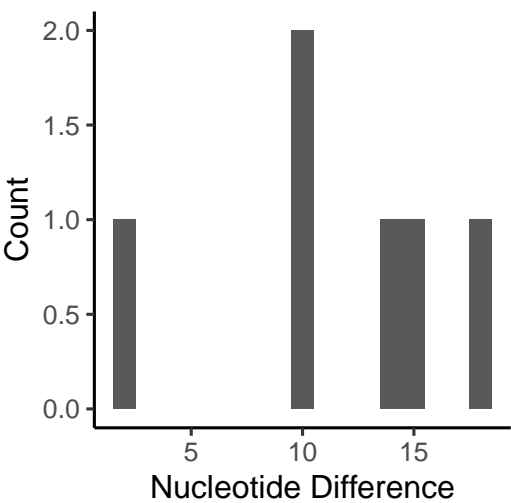
IGHV3-73\*01\_02

183 sequences assigned  
68 (37.2%) exact matches, in which:  
53 unique CDR3  
6 unique J



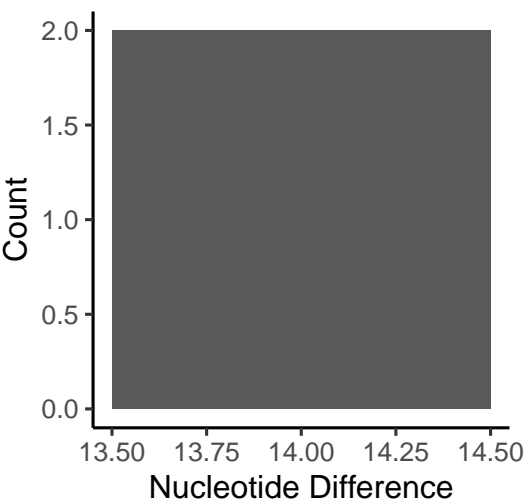
IGHV3-66\*03

6 sequences assigned  
No exact matches.



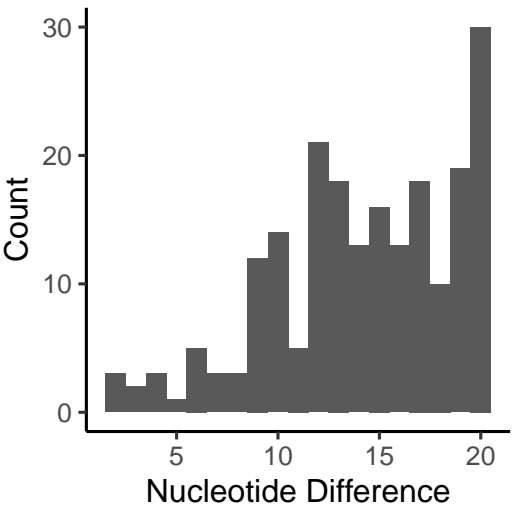
IGHV3-71\*02

2 sequences assigned  
No exact matches.



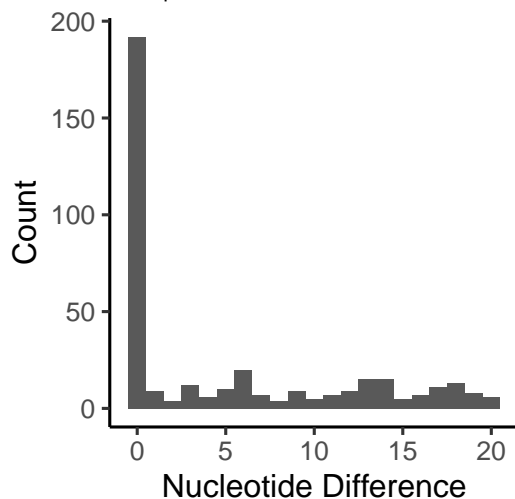
IGHV3-74\*03

462 sequences assigned  
No exact matches.



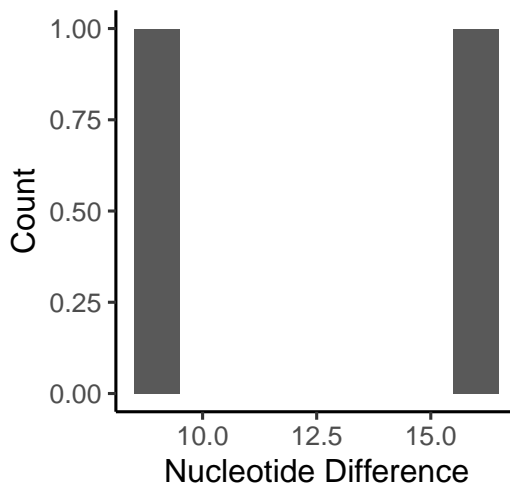
### IGHV3-74\*01\_02

423 sequences assigned  
192 (45.4%) exact matches, in which:  
138 unique CDR3  
7 unique J



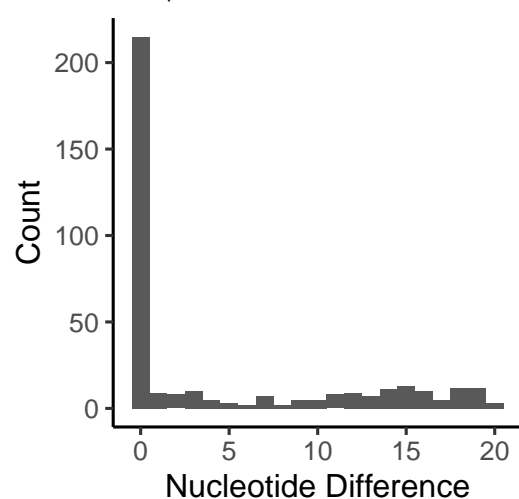
### IGHV4-28\*02\_05

2 sequences assigned  
No exact matches.



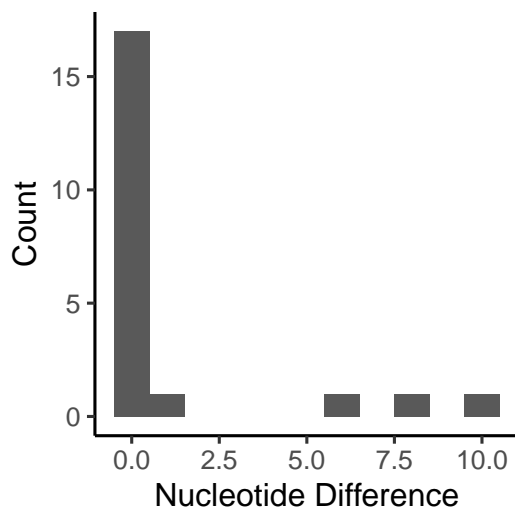
### IGHV4-31\*02

384 sequences assigned  
215 (56%) exact matches, in which:  
209 unique CDR3  
5 unique J



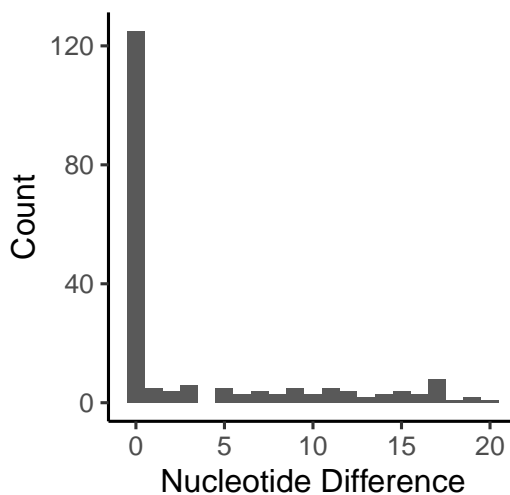
### IGHV3-43D\*03

21 sequences assigned  
17 (81%) exact matches, in which:  
13 unique CDR3  
3 unique J



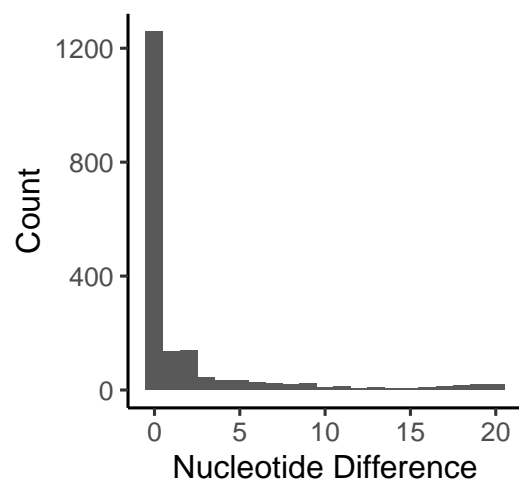
### IGHV4-30-4\*01

233 sequences assigned  
125 (53.6%) exact matches, in which:  
122 unique CDR3  
6 unique J



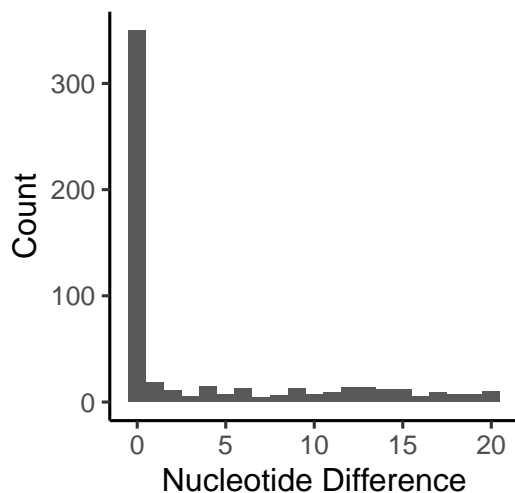
### IGHV4-34\*01\_02

1933 sequences assigned  
1258 (65.1%) exact matches, in which:  
1224 unique CDR3  
7 unique J



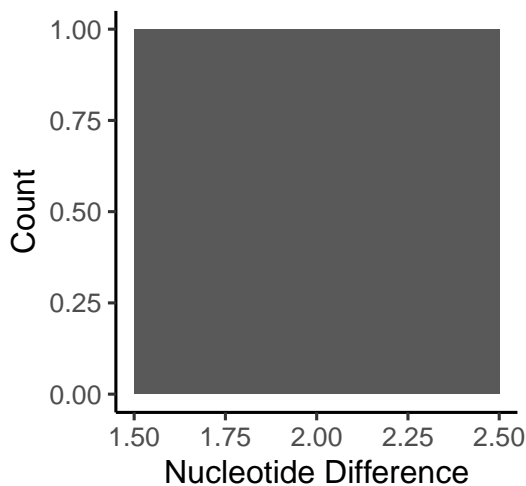
### IGHV4-4\*02\_03

617 sequences assigned  
350 (56.7%) exact matches, in which:  
335 unique CDR3  
7 unique J



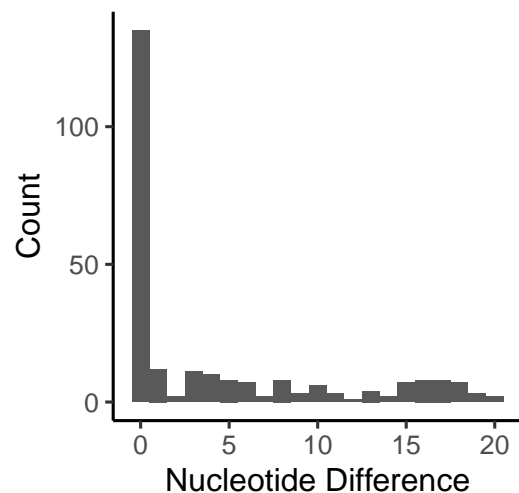
### IGHV4-30-2\*03

14 sequences assigned  
No exact matches.



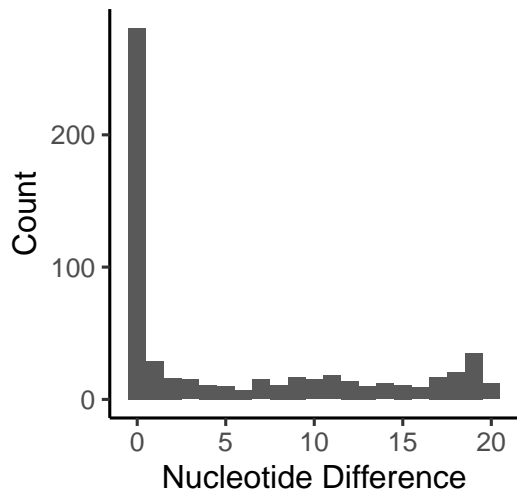
### IGHV4-38-2\*02

285 sequences assigned  
135 (47.4%) exact matches, in which:  
133 unique CDR3  
6 unique J



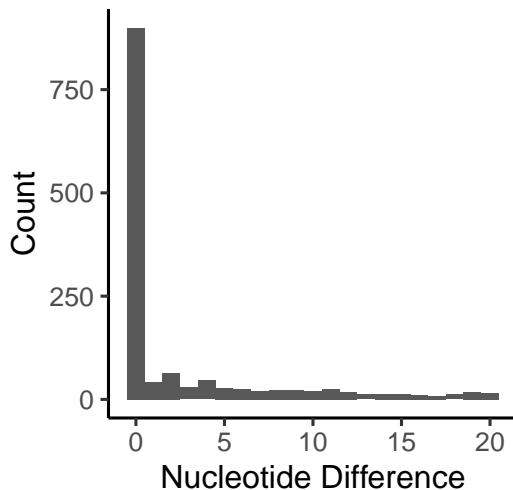
### IGHV4–39\*07

724 sequences assigned  
281 (38.8%) exact matches, in which:  
277 unique CDR3  
7 unique J



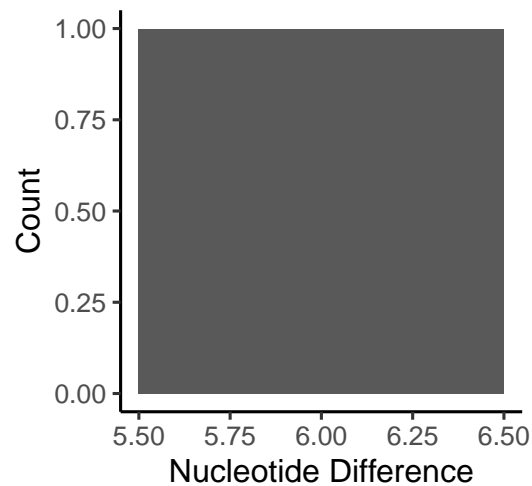
### IGHV4–59\*02\_G88A

1476 sequences assigned  
900 (61%) exact matches, in which:  
886 unique CDR3  
7 unique J



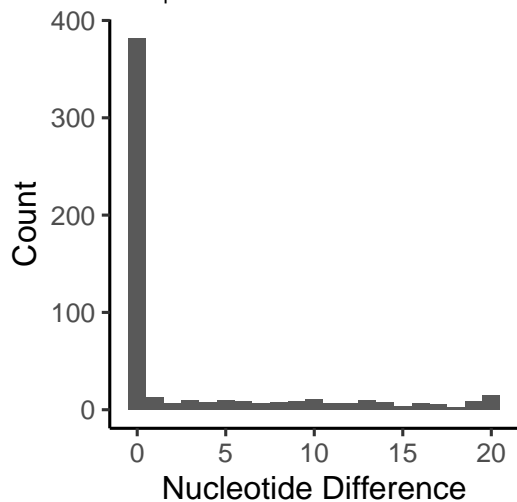
### IGHV4/OR15–8\*02

1 sequences assigned  
No exact matches.



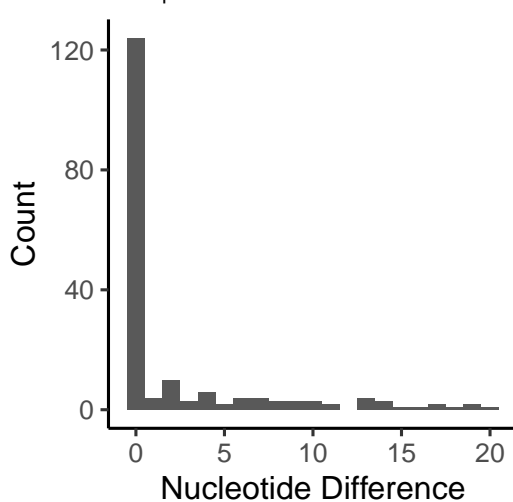
### IGHV4–39\*02\_C258G

612 sequences assigned  
382 (62.4%) exact matches, in which:  
368 unique CDR3  
6 unique J



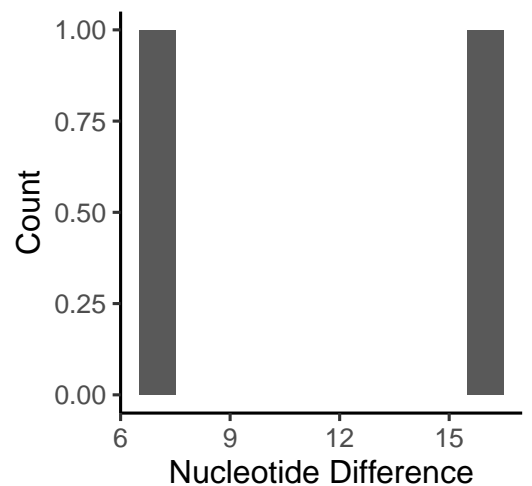
### IGHV4–61\*01

232 sequences assigned  
124 (53.4%) exact matches, in which:  
124 unique CDR3  
6 unique J



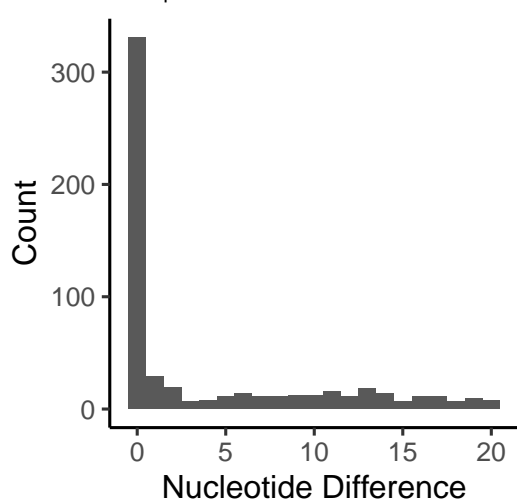
### IGHV5–10–1\*01\_03

2 sequences assigned  
No exact matches.



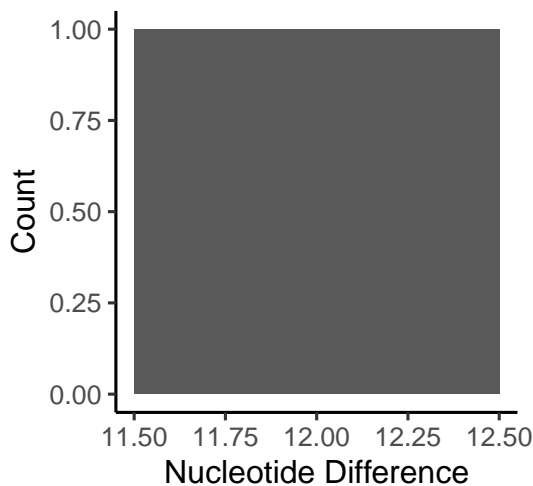
### IGHV4–59\*08

714 sequences assigned  
331 (46.4%) exact matches, in which:  
328 unique CDR3  
6 unique J



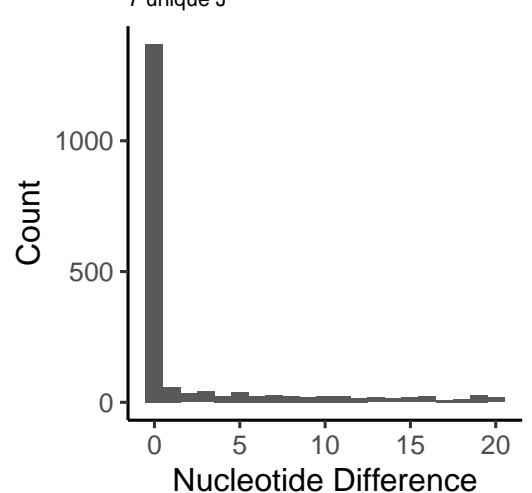
### IGHV1/OR15–2\*02\_03

1 sequences assigned  
No exact matches.



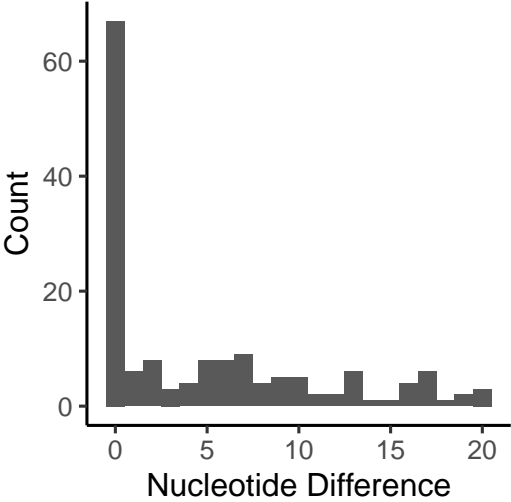
### IGHV5–51\*07\_A128G

1931 sequences assigned  
1370 (70.9%) exact matches, in which:  
1059 unique CDR3  
7 unique J



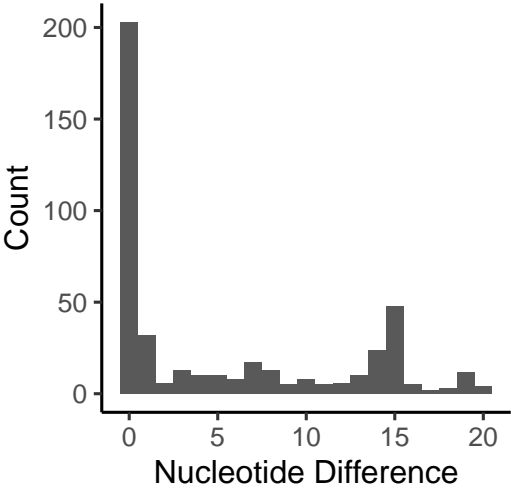
# IGHV6-1\*01\_02

163 sequences assigned  
67 (41.1%) exact matches, in which:  
67 unique CDR3  
6 unique J



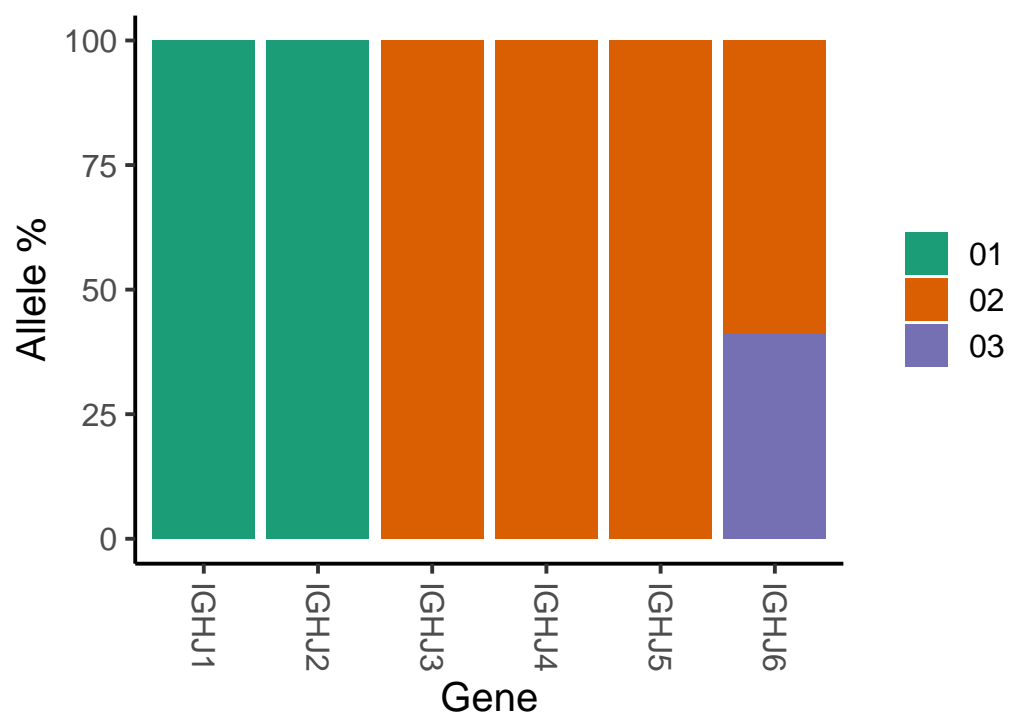
# IGHV7-4-1\*02

473 sequences assigned  
203 (42.9%) exact matches, in which:  
201 unique CDR3  
6 unique J

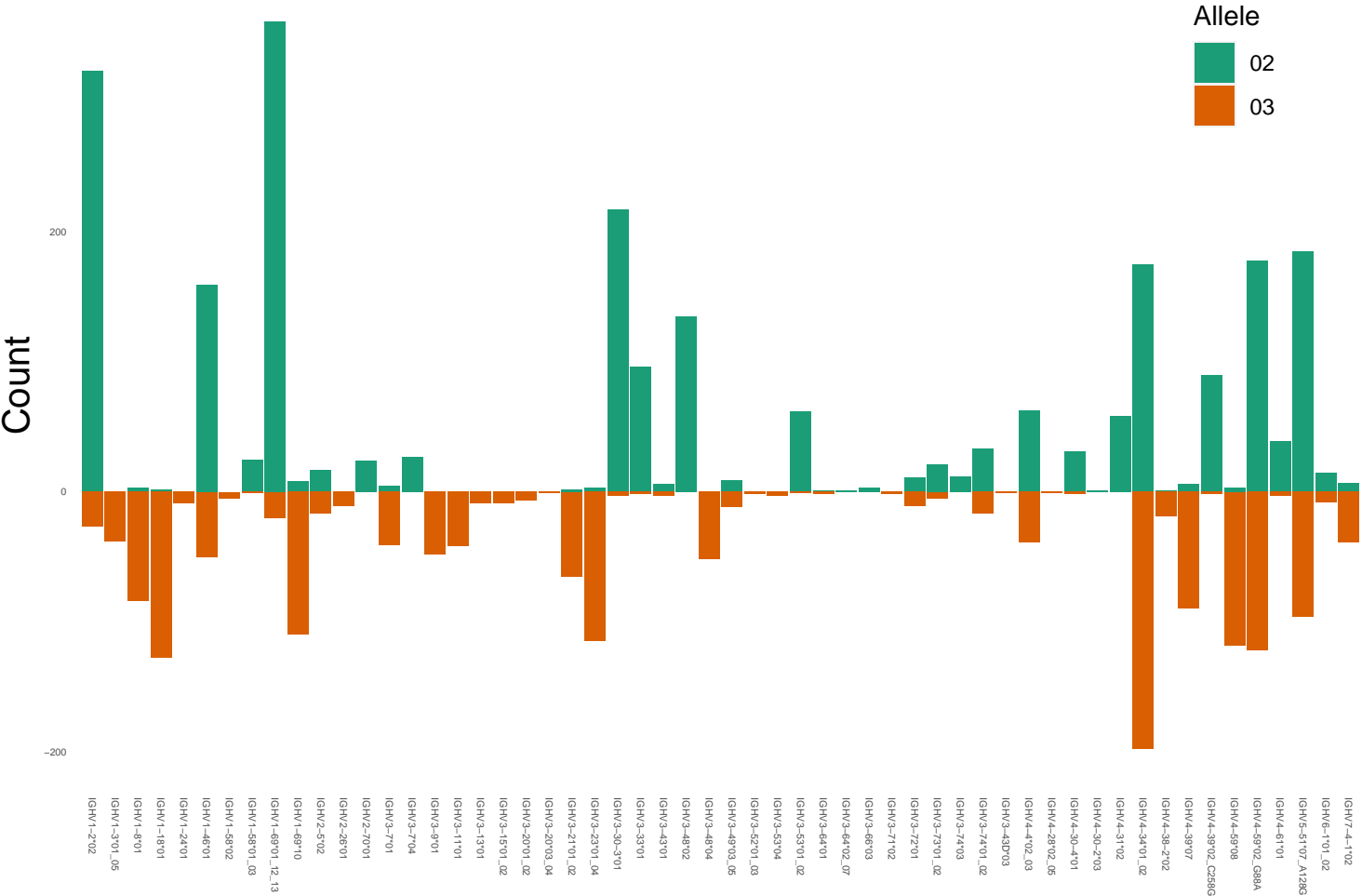




Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.