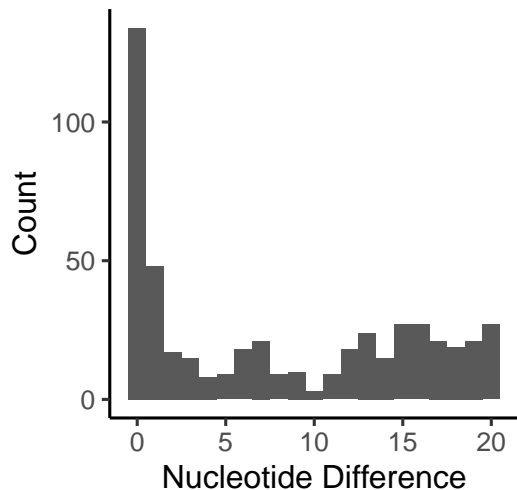


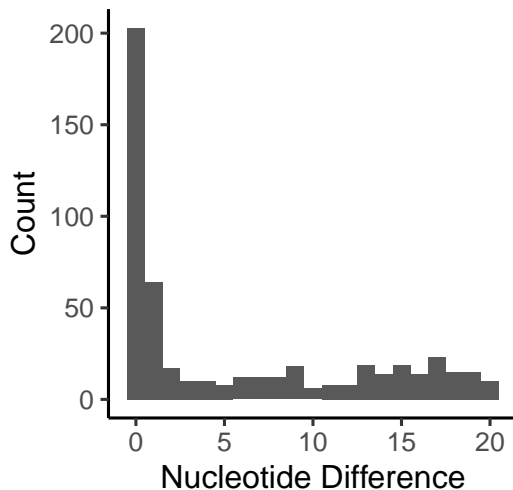
### IGHV1-2\*02

871 sequences assigned  
134 (15.4%) exact matches, in which:  
130 unique CDR3  
6 unique J



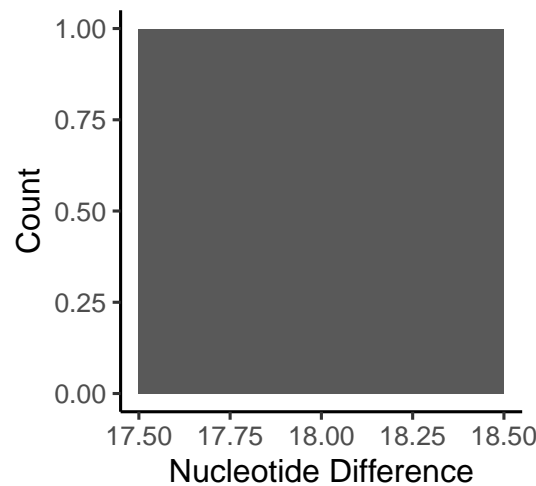
### IGHV1-8\*01

681 sequences assigned  
203 (29.8%) exact matches, in which:  
198 unique CDR3  
7 unique J



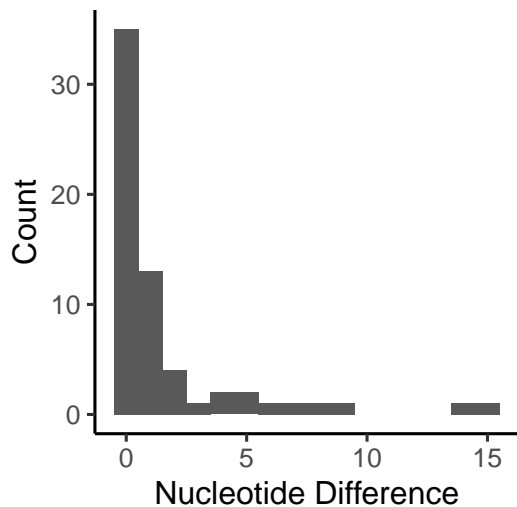
### IGHV1-45\*01

4 sequences assigned  
No exact matches.



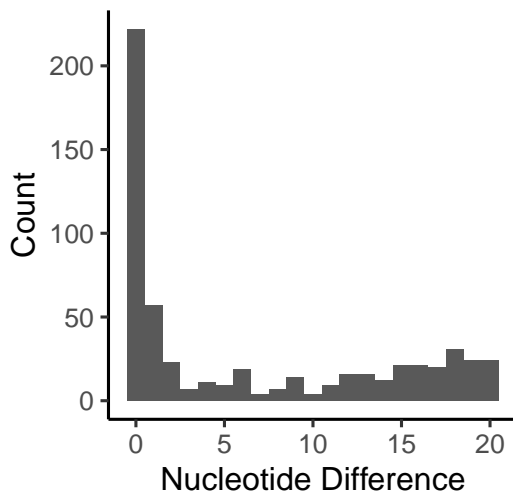
### IGHV1-2\*04

82 sequences assigned  
35 (42.7%) exact matches, in which:  
35 unique CDR3  
4 unique J



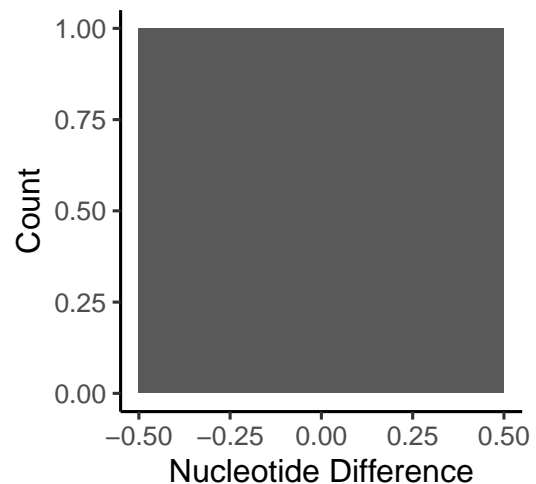
### IGHV1-18\*01

1008 sequences assigned  
222 (22%) exact matches, in which:  
220 unique CDR3  
7 unique J



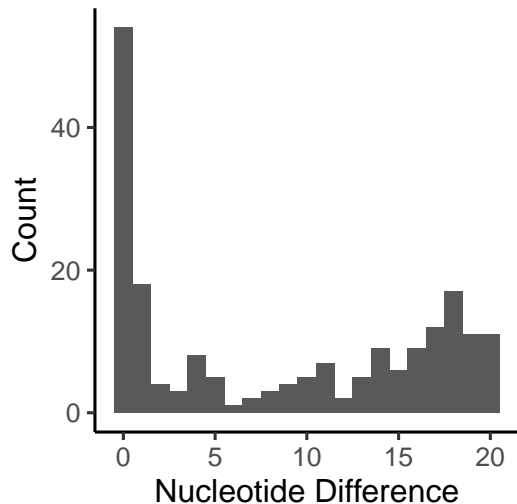
### IGHV1-45\*02

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



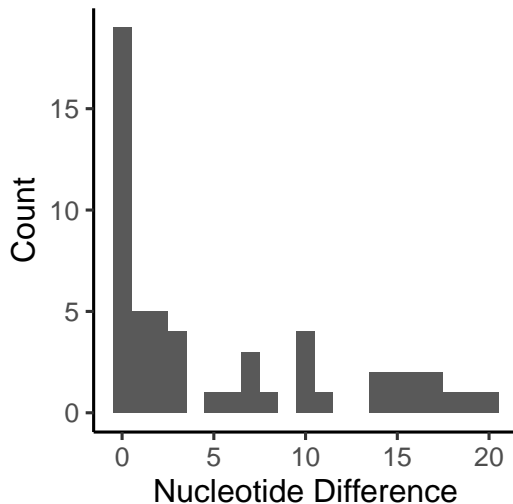
### IGHV1-3\*01

396 sequences assigned  
54 (13.6%) exact matches, in which:  
54 unique CDR3  
6 unique J



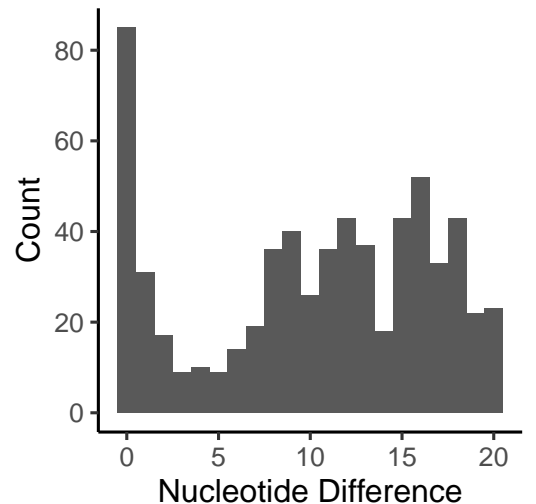
### IGHV1-24\*01

86 sequences assigned  
19 (22.1%) exact matches, in which:  
18 unique CDR3  
6 unique J



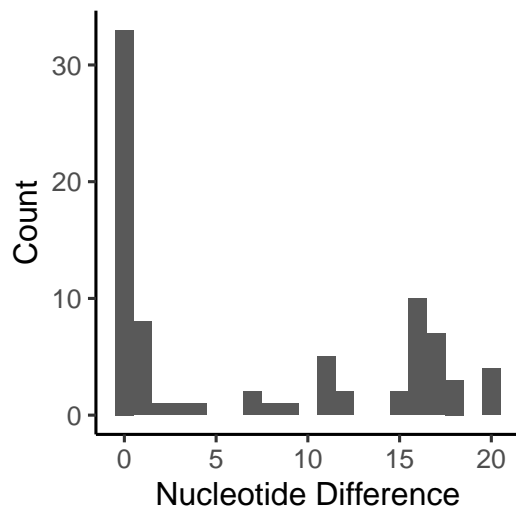
### IGHV1-46\*01

1109 sequences assigned  
85 (7.7%) exact matches, in which:  
83 unique CDR3  
6 unique J



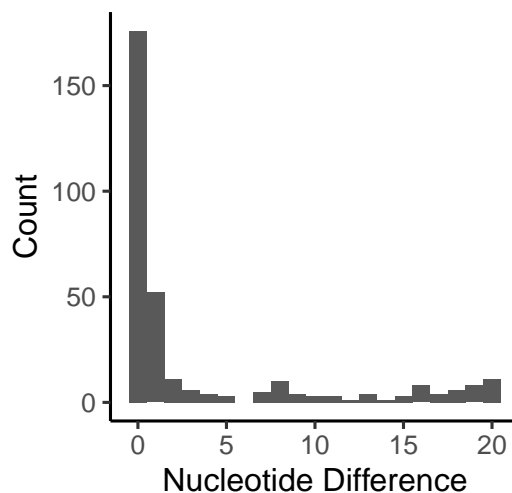
### IGHV1-58\*01

141 sequences assigned  
33 (23.4%) exact matches, in which:  
33 unique CDR3  
7 unique J



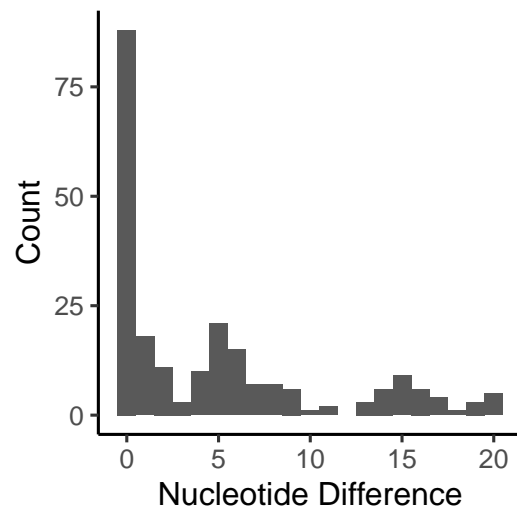
### IGHV1-69\*06

511 sequences assigned  
176 (34.4%) exact matches, in which:  
170 unique CDR3  
6 unique J



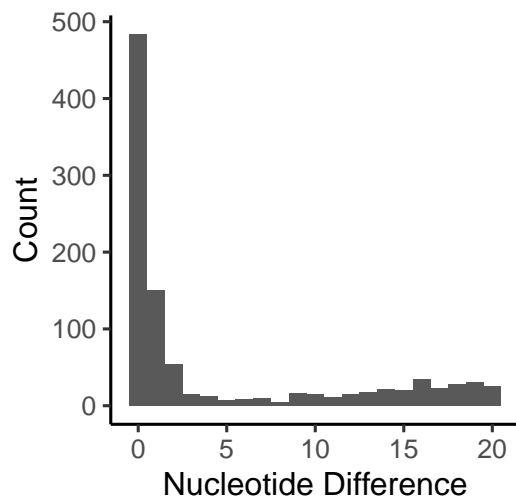
### IGHV2-26\*01

238 sequences assigned  
88 (37%) exact matches, in which:  
86 unique CDR3  
7 unique J



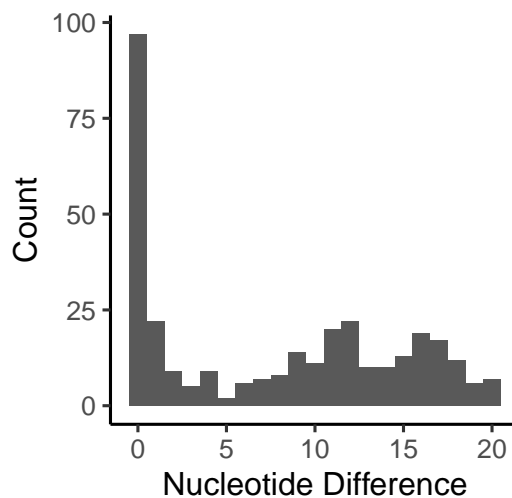
### IGHV1-69\*01

1579 sequences assigned  
484 (30.7%) exact matches, in which:  
478 unique CDR3  
7 unique J



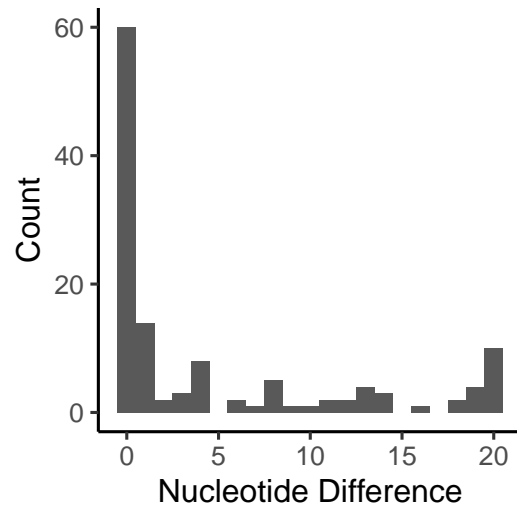
### IGHV2-5\*01

416 sequences assigned  
97 (23.3%) exact matches, in which:  
95 unique CDR3  
6 unique J



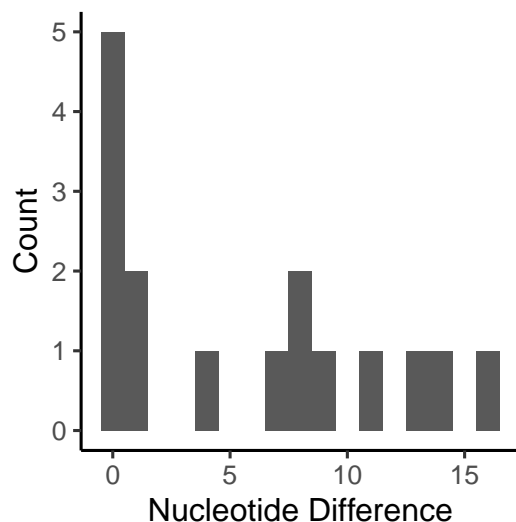
### IGHV2-70\*01

155 sequences assigned  
60 (38.7%) exact matches, in which:  
59 unique CDR3  
6 unique J



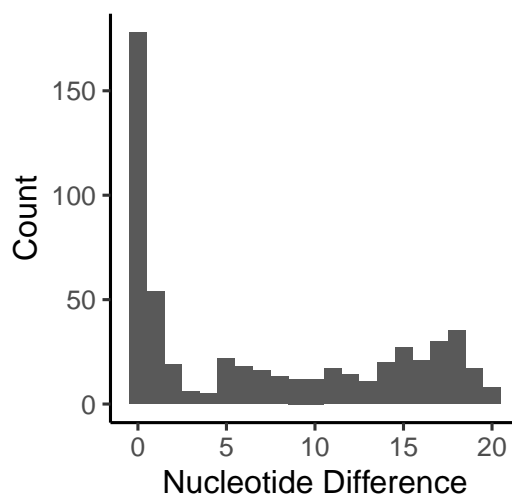
### IGHV1-69-2\*01

28 sequences assigned  
5 (17.9%) exact matches, in which:  
5 unique CDR3  
2 unique J



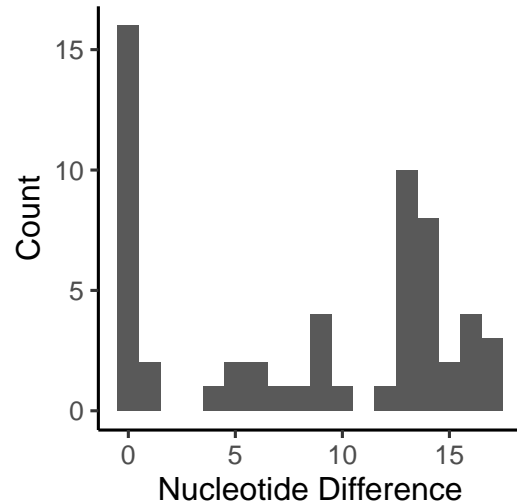
### IGHV2-5\*02

736 sequences assigned  
178 (24.2%) exact matches, in which:  
171 unique CDR3  
6 unique J



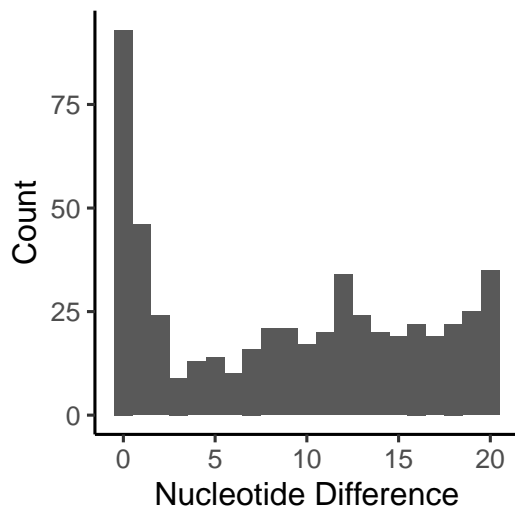
### IGHV2-70\*04

77 sequences assigned  
16 (20.8%) exact matches, in which:  
16 unique CDR3  
3 unique J



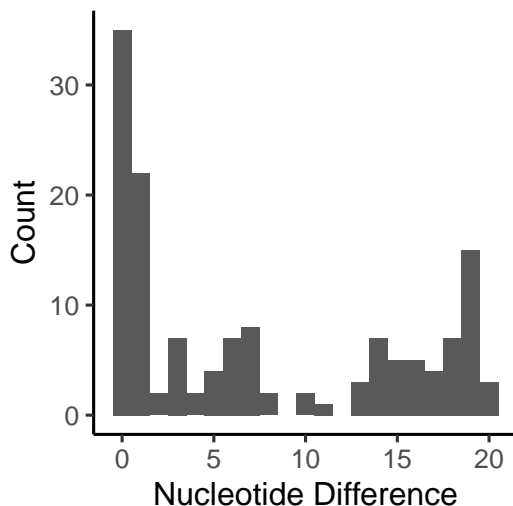
### IGHV3-7\*01

791 sequences assigned  
93 (11.8%) exact matches, in which:  
93 unique CDR3  
7 unique J



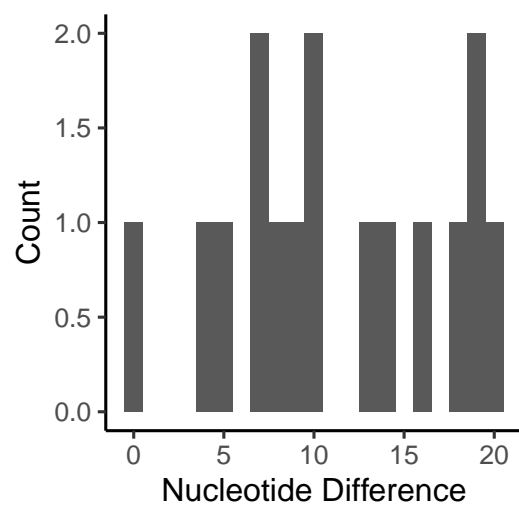
### IGHV3-13\*01

324 sequences assigned  
35 (10.8%) exact matches, in which:  
35 unique CDR3  
6 unique J



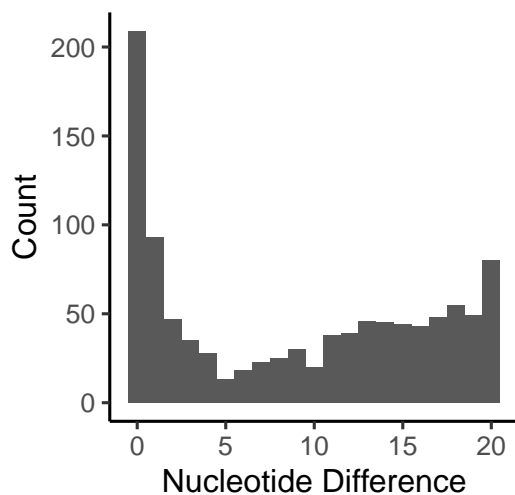
### IGHV3-20\*04

29 sequences assigned  
1 (3.4%) exact matches, in which:  
1 unique CDR3  
1 unique J



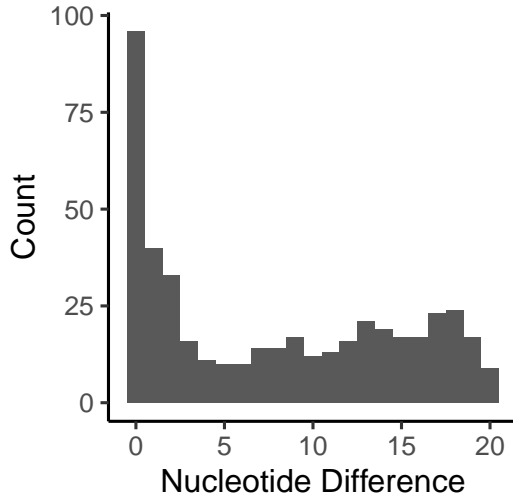
### IGHV3-9\*01

1815 sequences assigned  
209 (11.5%) exact matches, in which:  
206 unique CDR3  
7 unique J



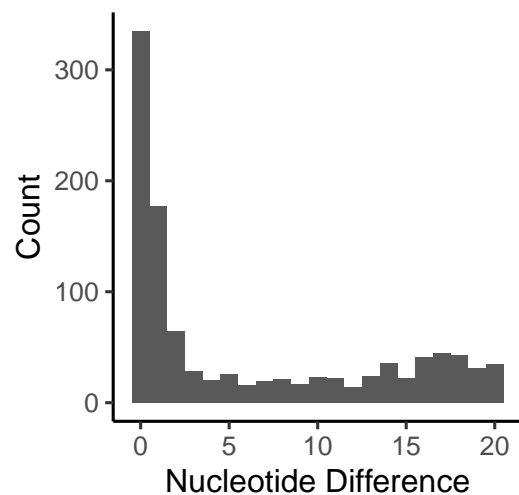
### IGHV3-15\*01

798 sequences assigned  
96 (12%) exact matches, in which:  
94 unique CDR3  
6 unique J



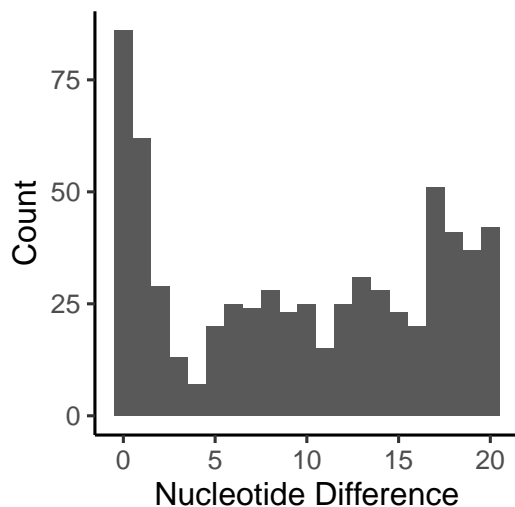
### IGHV3-21\*01

1562 sequences assigned  
335 (21.4%) exact matches, in which:  
322 unique CDR3  
7 unique J



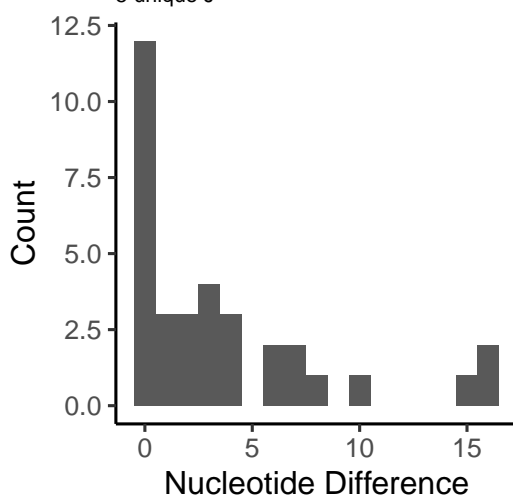
### IGHV3-11\*01

1144 sequences assigned  
86 (7.5%) exact matches, in which:  
86 unique CDR3  
7 unique J



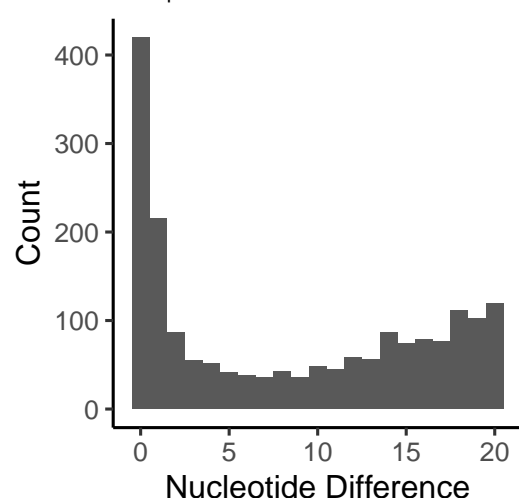
### IGHV3-20\*01

63 sequences assigned  
12 (19%) exact matches, in which:  
12 unique CDR3  
5 unique J



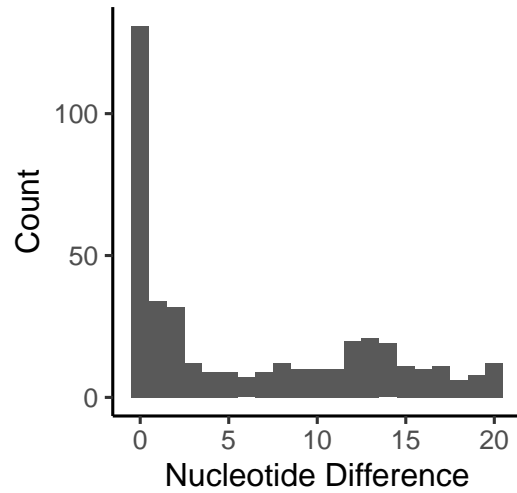
### IGHV3-23\*01

3525 sequences assigned  
420 (11.9%) exact matches, in which:  
417 unique CDR3  
7 unique J



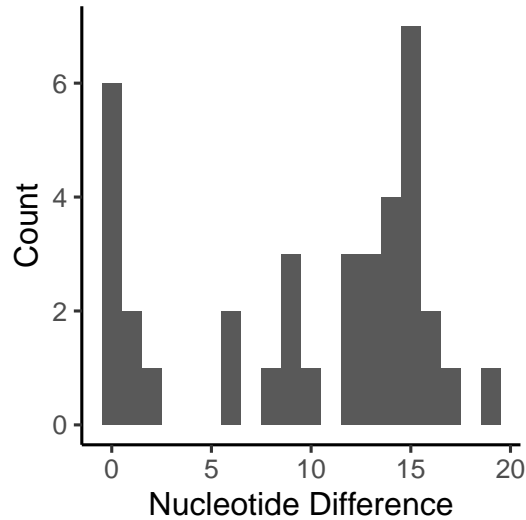
### IGHV3-30-3\*01

637 sequences assigned  
131 (20.6%) exact matches, in which:  
129 unique CDR3  
7 unique J



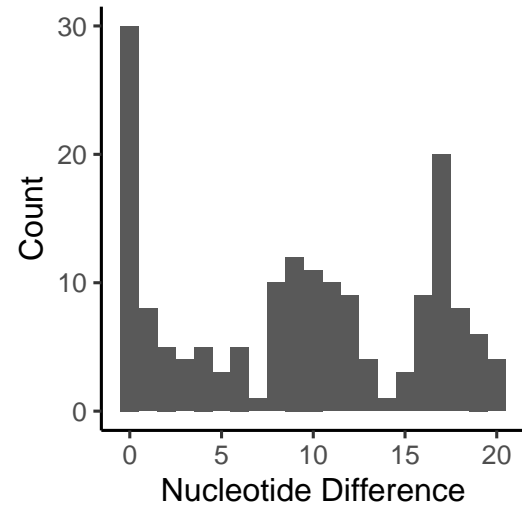
### IGHV3-43\*01

69 sequences assigned  
6 (8.7%) exact matches, in which:  
6 unique CDR3  
2 unique J



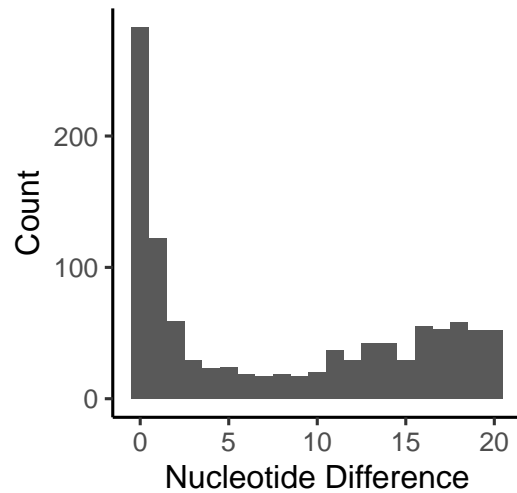
### IGHV3-49\*04

233 sequences assigned  
30 (12.9%) exact matches, in which:  
30 unique CDR3  
3 unique J



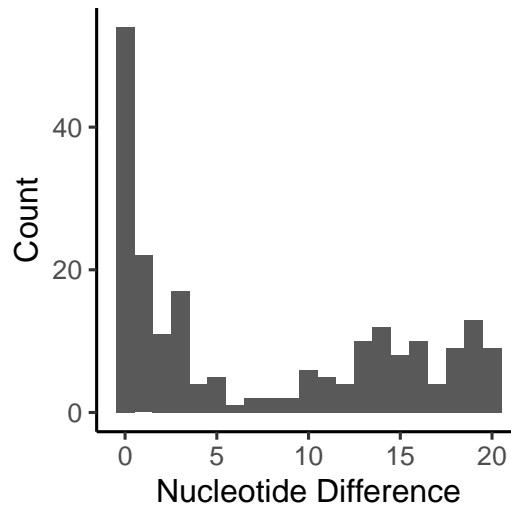
### IGHV3-30\*18

1787 sequences assigned  
283 (15.8%) exact matches, in which:  
280 unique CDR3  
7 unique J



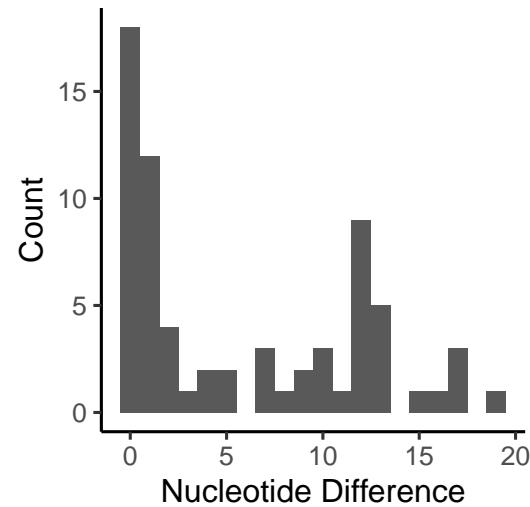
### IGHV3-48\*02

314 sequences assigned  
54 (17.2%) exact matches, in which:  
54 unique CDR3  
6 unique J



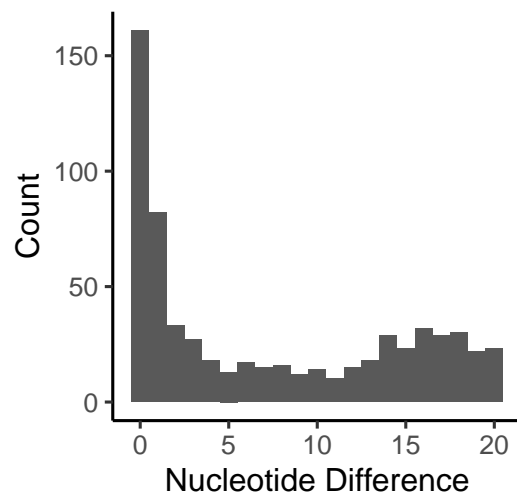
### IGHV3-49\*05

97 sequences assigned  
18 (18.6%) exact matches, in which:  
17 unique CDR3  
4 unique J



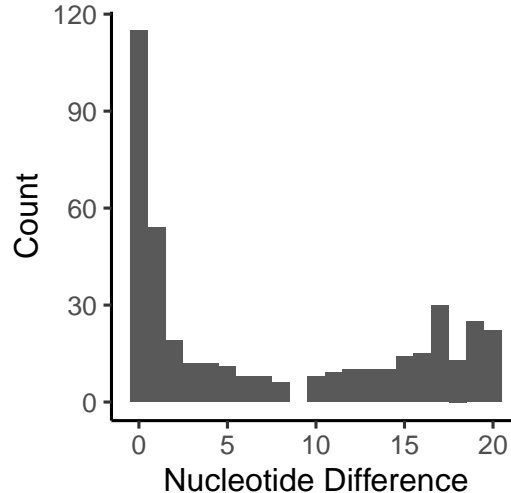
### IGHV3-33\*01

1131 sequences assigned  
161 (14.2%) exact matches, in which:  
160 unique CDR3  
7 unique J



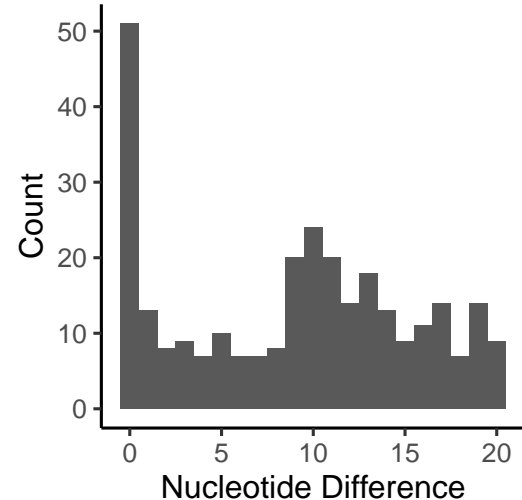
### IGHV3-48\*03

614 sequences assigned  
115 (18.7%) exact matches, in which:  
112 unique CDR3  
6 unique J



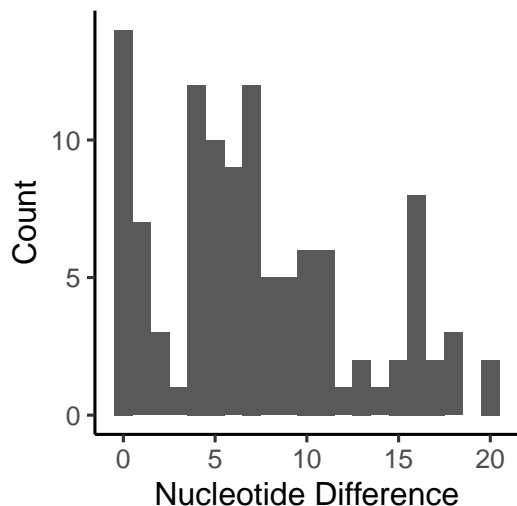
### IGHV3-53\*01

414 sequences assigned  
51 (12.3%) exact matches, in which:  
50 unique CDR3  
6 unique J



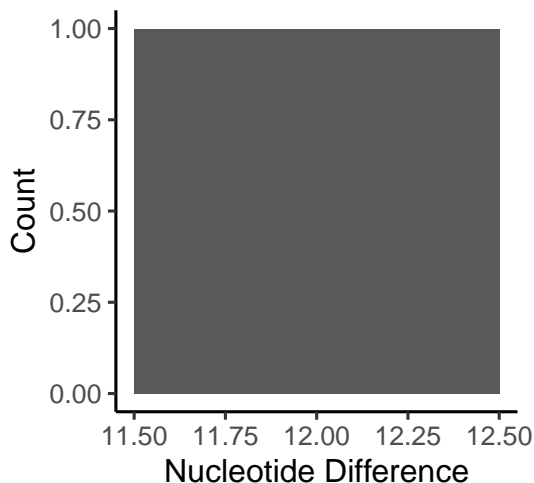
### IGHV3-53\*02

152 sequences assigned  
14 (9.2%) exact matches, in which:  
13 unique CDR3  
4 unique J



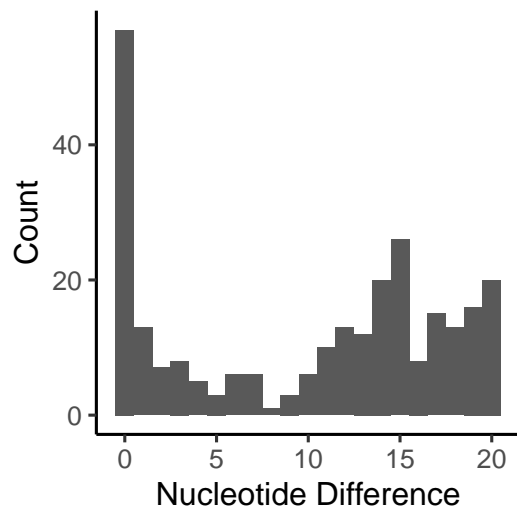
### IGHV3-71\*01

1 sequences assigned  
No exact matches.



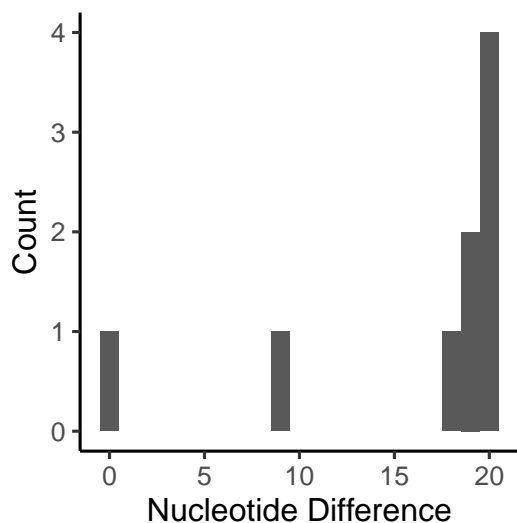
### IGHV3-74\*01

600 sequences assigned  
57 (9.5%) exact matches, in which:  
55 unique CDR3  
7 unique J



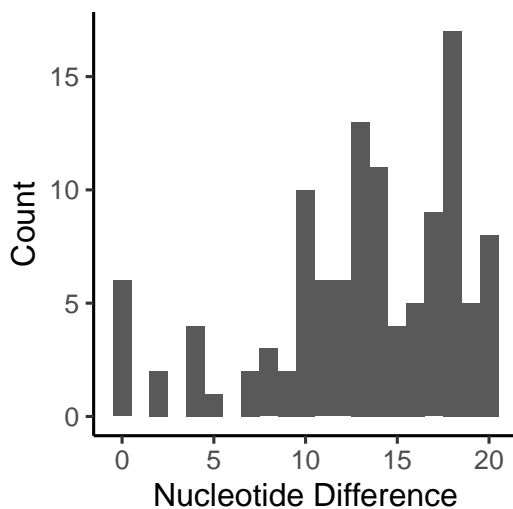
### IGHV3-64\*02

15 sequences assigned  
1 (6.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



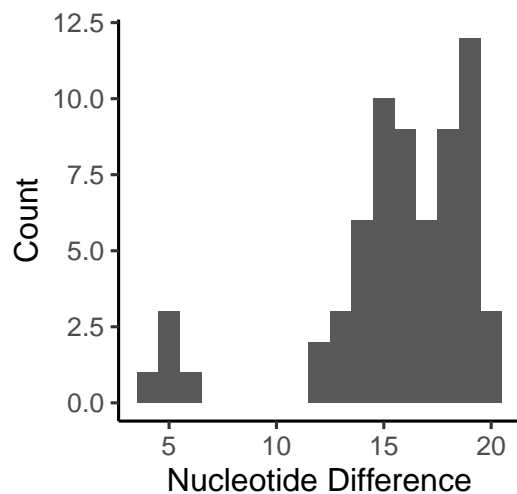
### IGHV3-72\*01

206 sequences assigned  
6 (2.9%) exact matches, in which:  
6 unique CDR3  
2 unique J



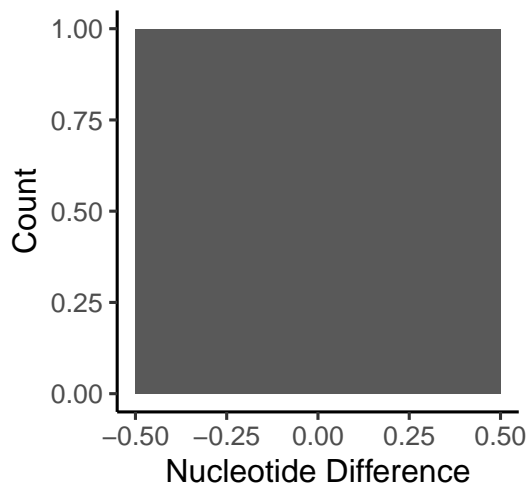
### IGHV3-74\*03

114 sequences assigned  
No exact matches.



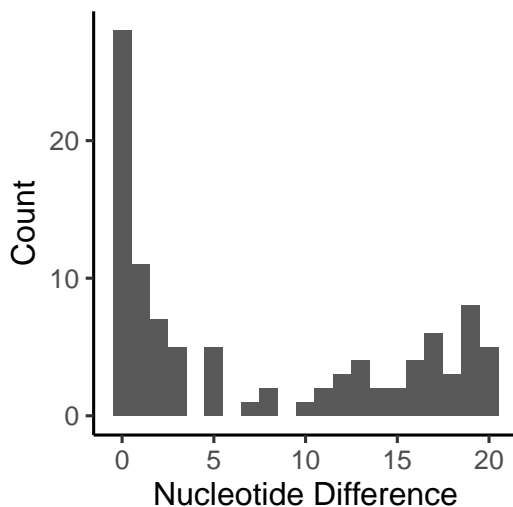
### IGHV3-66\*01

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



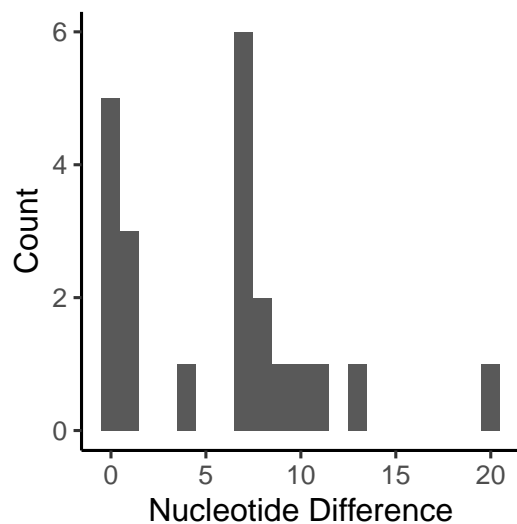
### IGHV3-73\*02

191 sequences assigned  
28 (14.7%) exact matches, in which:  
28 unique CDR3  
5 unique J



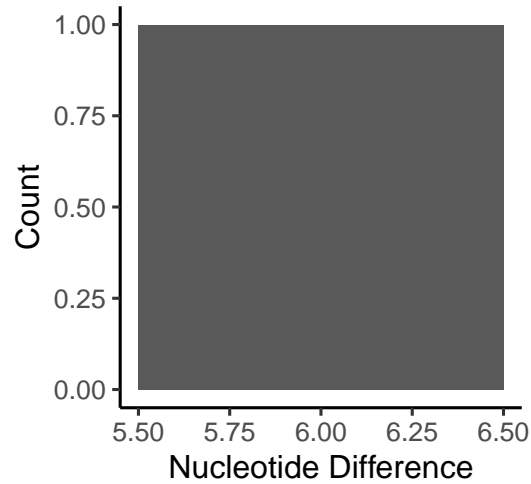
### IGHV3-43D\*04

28 sequences assigned  
5 (17.9%) exact matches, in which:  
5 unique CDR3  
3 unique J



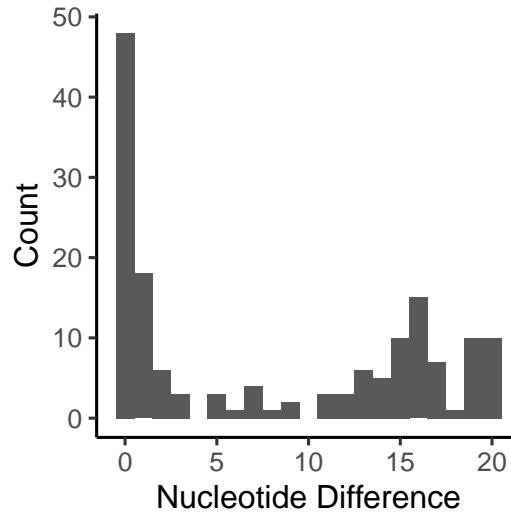
### IGHV3-64D\*08

1 sequences assigned  
No exact matches.



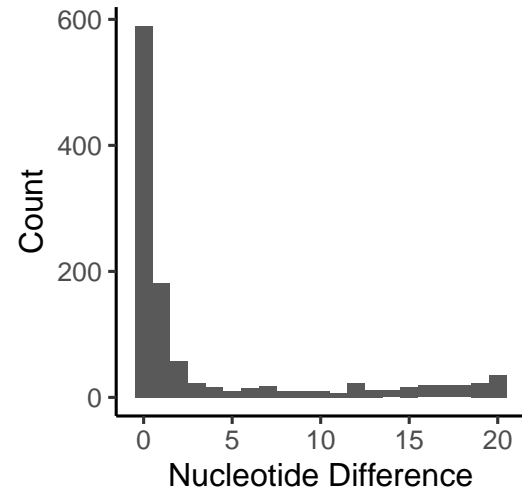
### IGHV4-30-4\*01

271 sequences assigned  
48 (17.7%) exact matches, in which:  
48 unique CDR3  
6 unique J



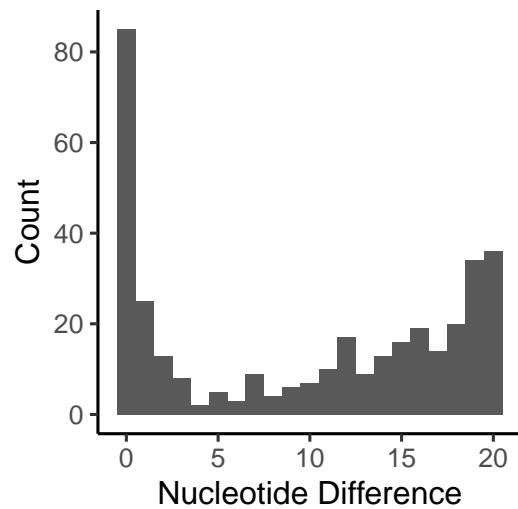
### IGHV4-34\*01

1493 sequences assigned  
590 (39.5%) exact matches, in which:  
579 unique CDR3  
7 unique J



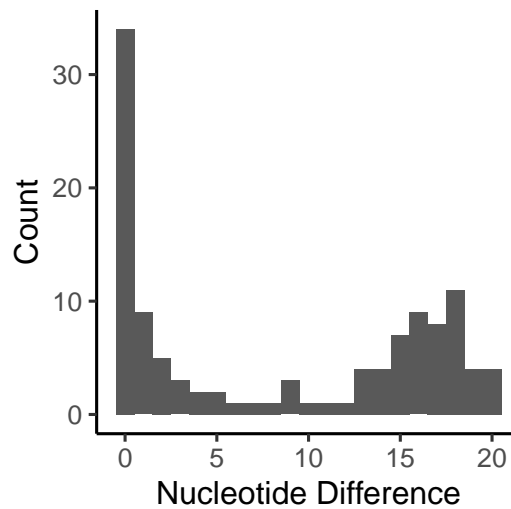
### IGHV4-4\*02

658 sequences assigned  
85 (12.9%) exact matches, in which:  
84 unique CDR3  
6 unique J



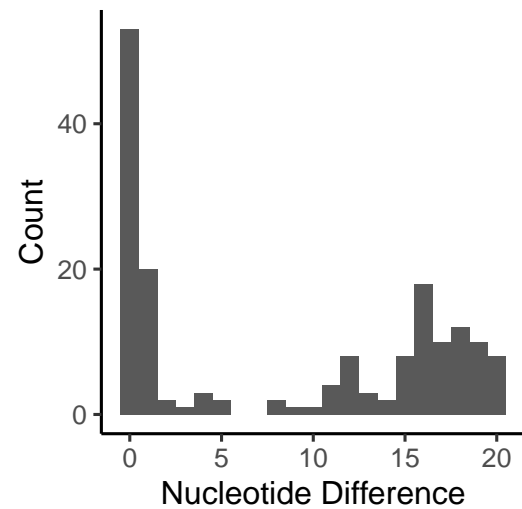
### IGHV4-30-2\*01

238 sequences assigned  
34 (14.3%) exact matches, in which:  
34 unique CDR3  
6 unique J



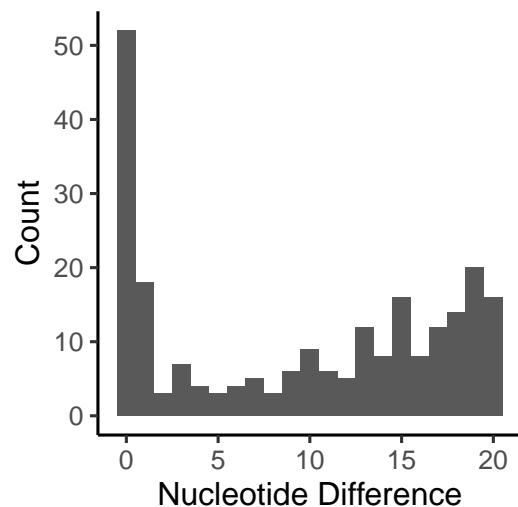
### IGHV4-38-2\*01

436 sequences assigned  
53 (12.2%) exact matches, in which:  
53 unique CDR3  
5 unique J



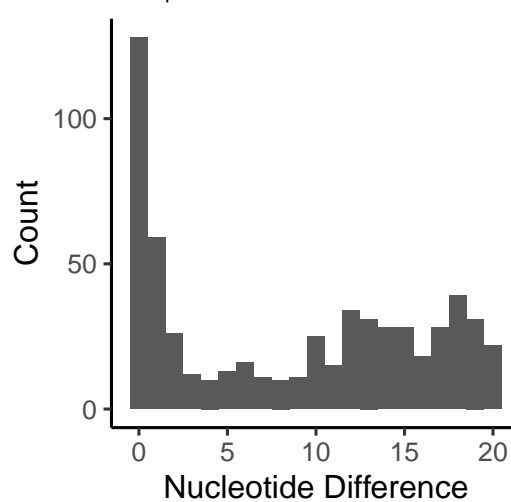
### IGHV4-4\*07

693 sequences assigned  
52 (7.5%) exact matches, in which:  
50 unique CDR3  
6 unique J



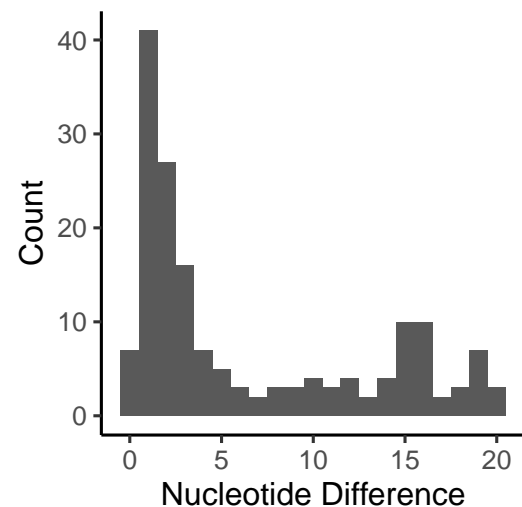
### IGHV4-31\*03

976 sequences assigned  
128 (13.1%) exact matches, in which:  
126 unique CDR3  
7 unique J



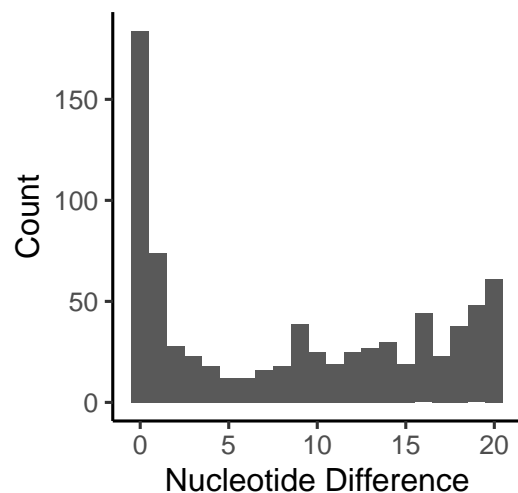
### IGHV4-38-2\*02

283 sequences assigned  
7 (2.5%) exact matches, in which:  
7 unique CDR3  
4 unique J



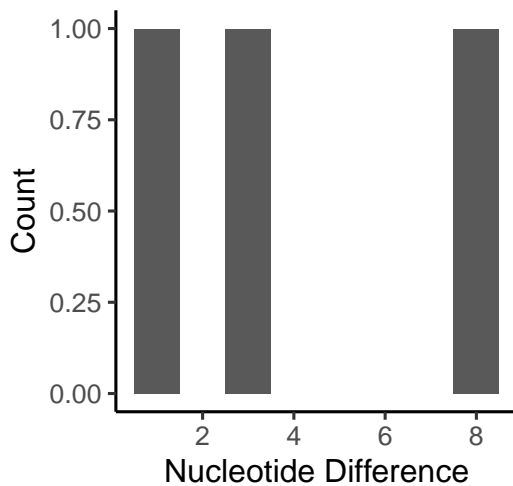
### IGHV4–39\*01

1651 sequences assigned  
184 (11.1%) exact matches, in which:  
181 unique CDR3  
7 unique J



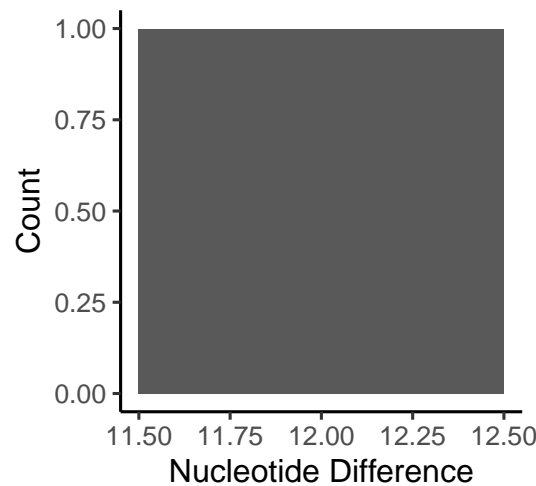
### IGHV1/OR15–1\*04

3 sequences assigned  
No exact matches.



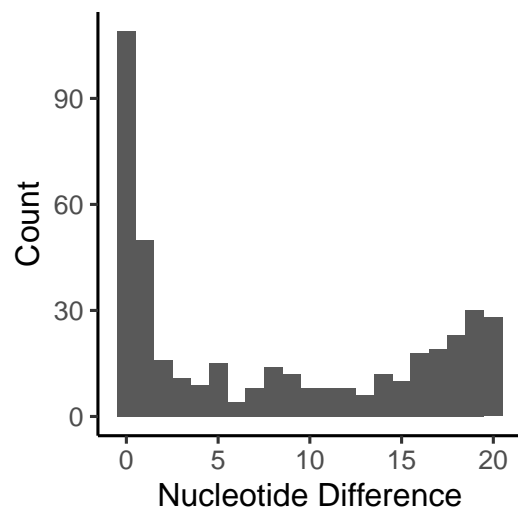
### IGHV5–78\*01

1 sequences assigned  
No exact matches.



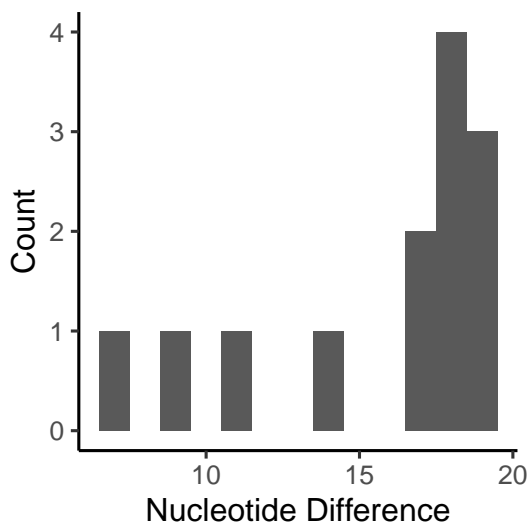
### IGHV4–59\*01

744 sequences assigned  
109 (14.7%) exact matches, in which:  
108 unique CDR3  
7 unique J



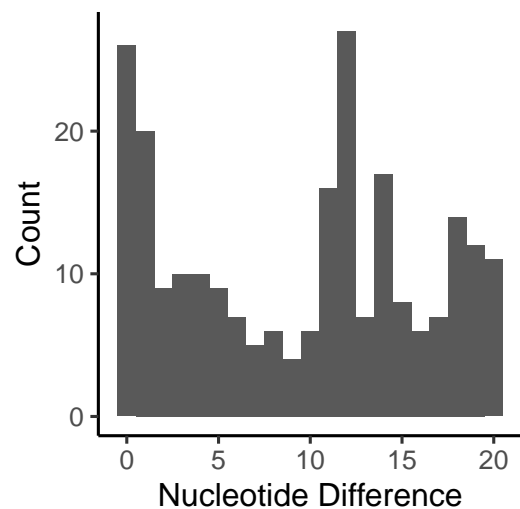
### IGHV4/OR15–8\*02

24 sequences assigned  
No exact matches.



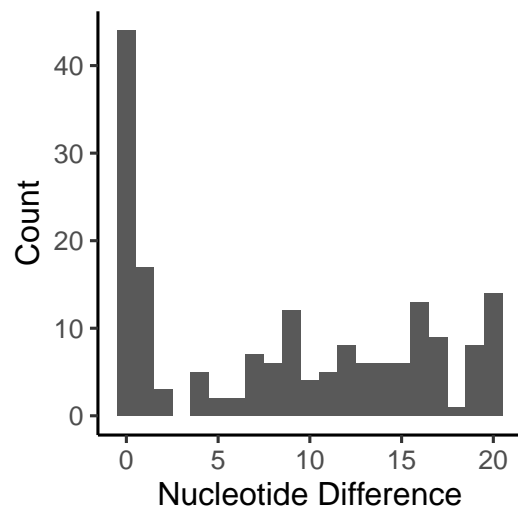
### IGHV6–1\*01

379 sequences assigned  
26 (6.9%) exact matches, in which:  
26 unique CDR3  
6 unique J



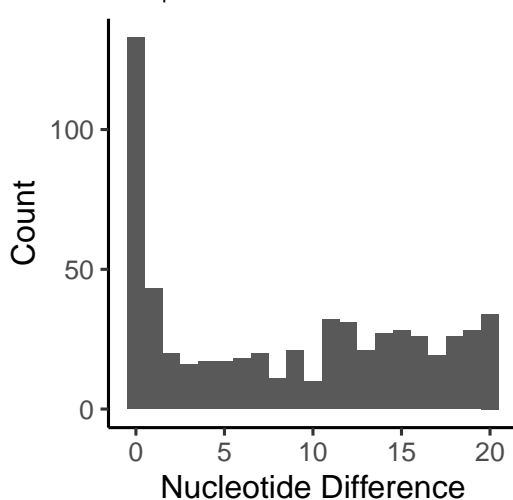
### IGHV4–61\*01

369 sequences assigned  
44 (11.9%) exact matches, in which:  
44 unique CDR3  
7 unique J



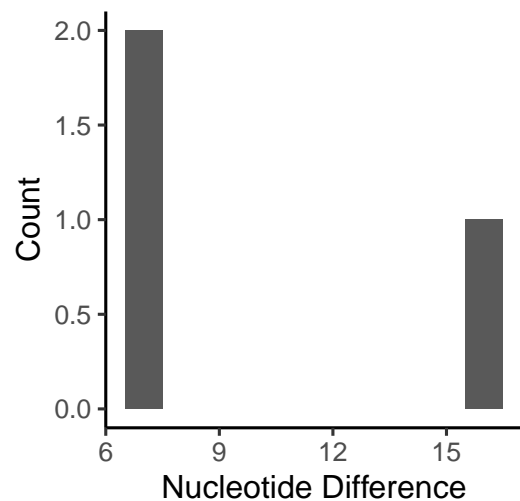
### IGHV5–51\*01

989 sequences assigned  
133 (13.4%) exact matches, in which:  
131 unique CDR3  
7 unique J



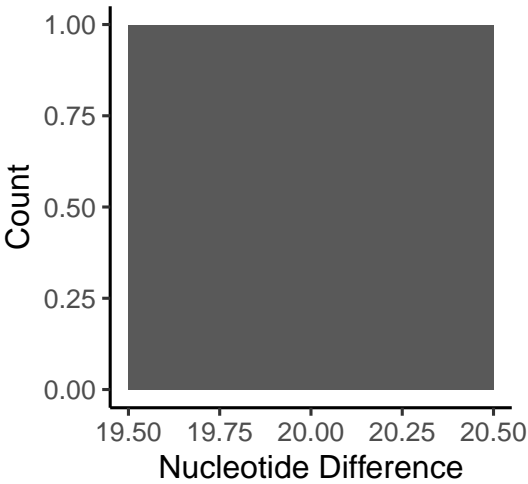
### IGHV3/OR16–9\*01

3 sequences assigned  
No exact matches.



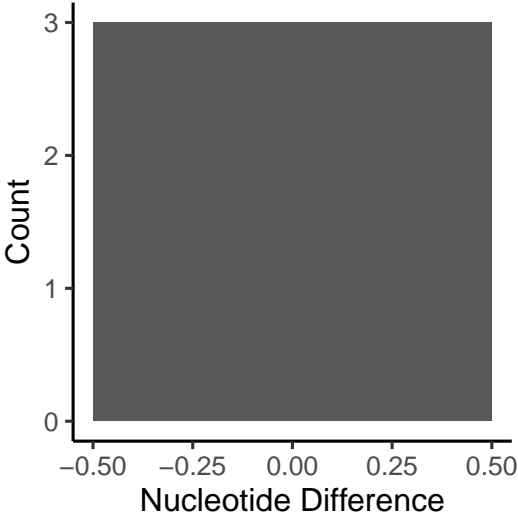
### IGHV3/OR16-12\*01

1 sequences assigned  
No exact matches.



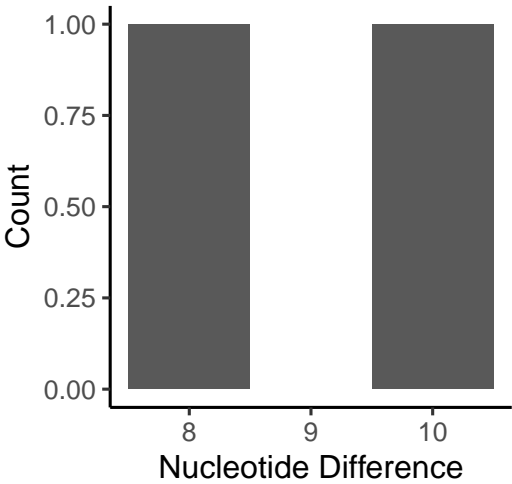
### IGHV7-4-1\*01

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



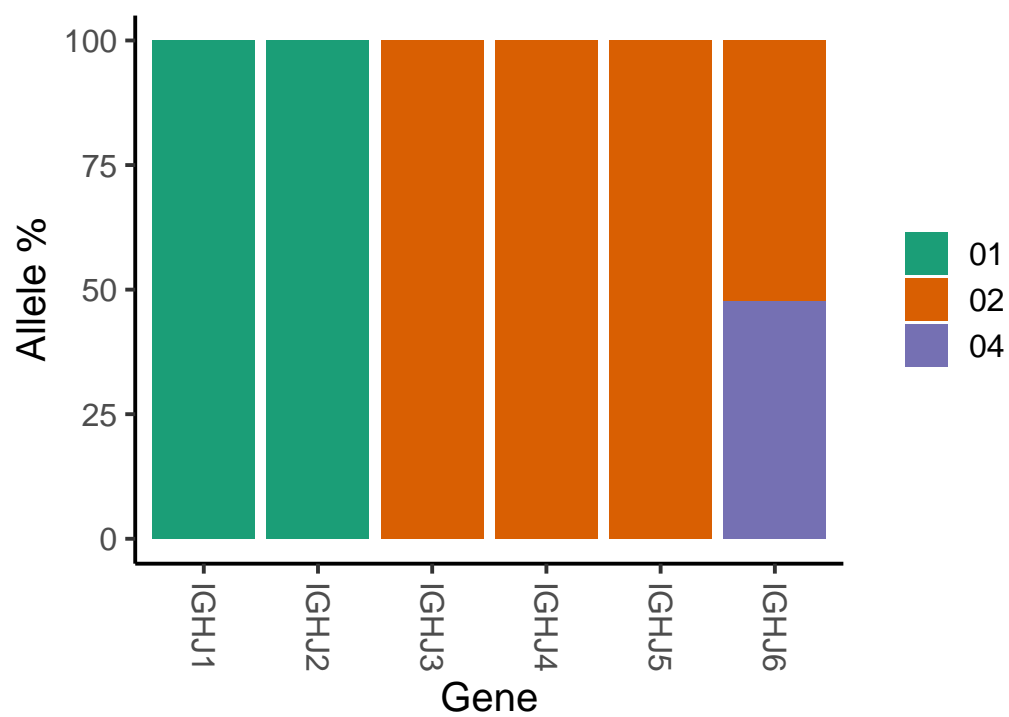
### IGHV7-4-1\*02

3 sequences assigned  
No exact matches.

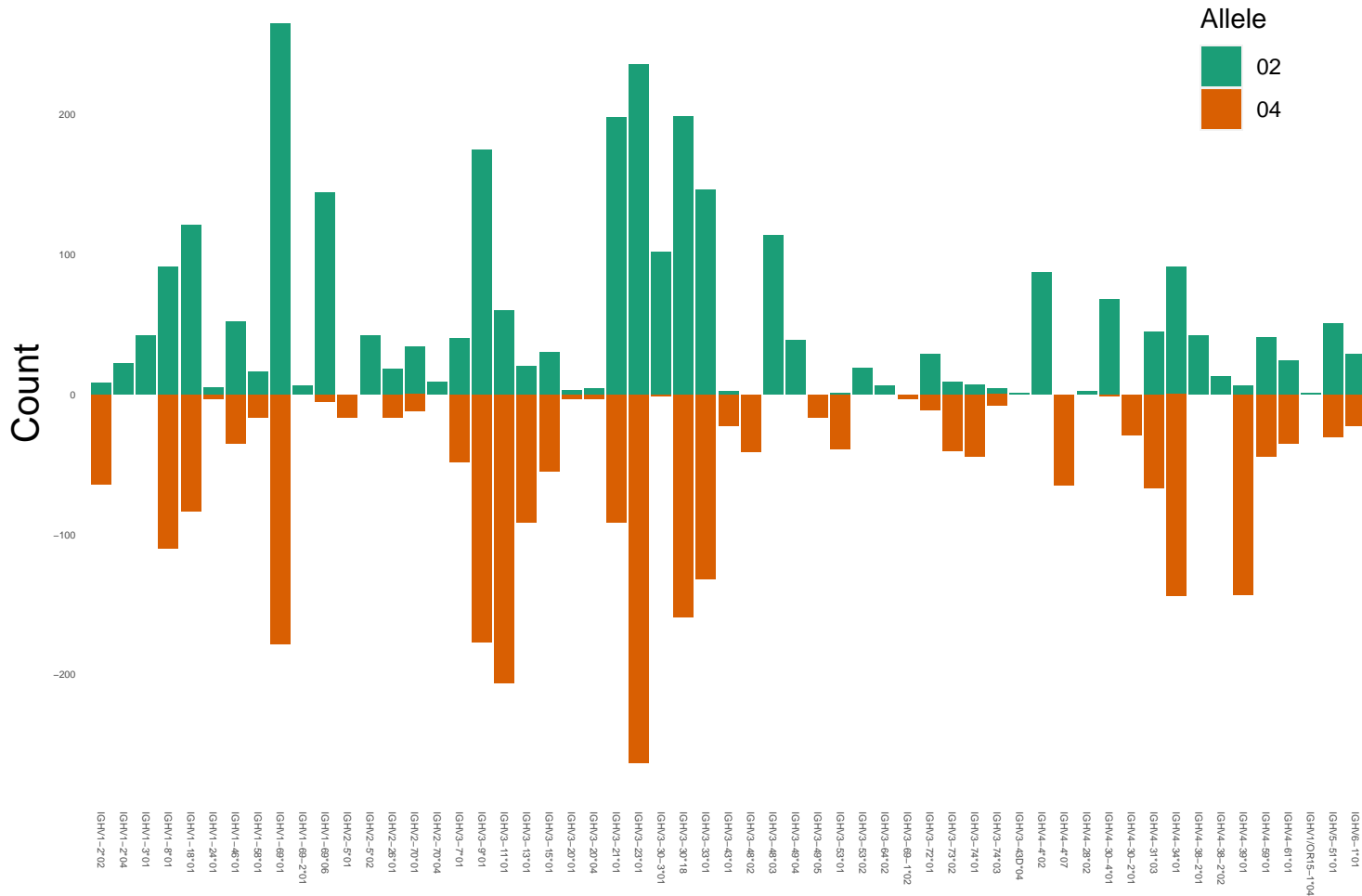




Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.